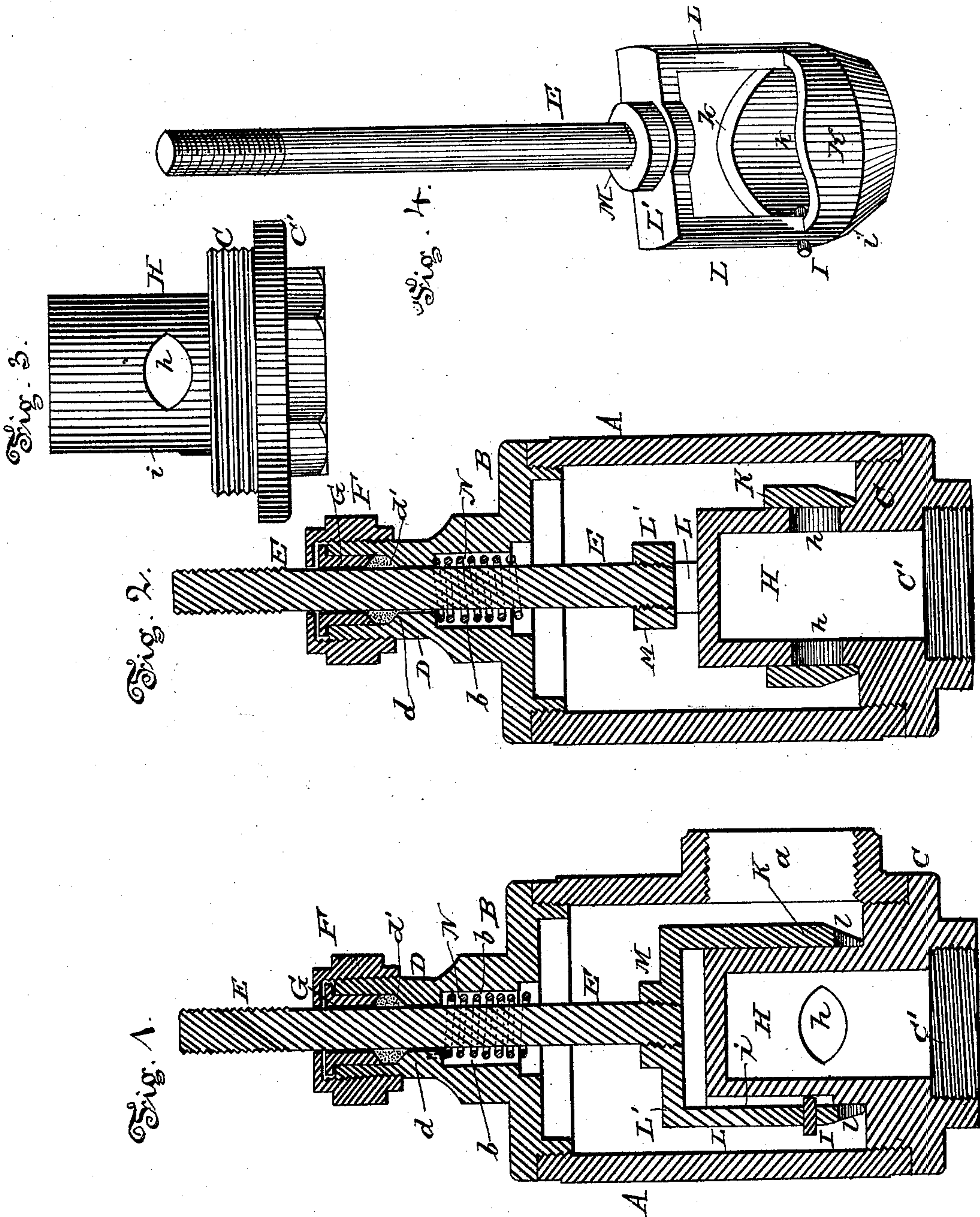


(No Model.)

T. P. BARRY.
STEAM VALVE.

No. 285,955.

Patented Oct. 2, 1883.



WITNESSES:

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UNITED STATES PATENT OFFICE.

THOMAS P. BARRY, OF STILLWATER, NEW YORK.

STEAM-VALVE.

SPECIFICATION forming part of Letters Patent No. 285,955, dated October 2, 1883.

Application filed March 13, 1883. (No model.)

To all whom it may concern:

Be it known that I, THOMAS P. BARRY, of Stillwater, in the county of Saratoga and State of New York, have invented certain new and useful Improvements in Steam-Valves; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a vertical sectional view of my improved valve. Fig. 2 is a similar view at right angles to the view shown in Fig. 1. Fig. 3 is a detail view of the cylindrical valve-seat removed from the valve-box; and Fig. 4 is a detail view of the sliding valve.

Similar letters of reference indicate corresponding parts in all the figures.

My invention has relation to valves for regulating or controlling the flow of steam under pressure; and it consists in the detailed construction and combination of parts of a valve, which, while suitable for all purposes for which valves of this class are usually employed, is particularly adapted, in conjunction with an apparatus for automatically operating the valve, which forms the subject of a separate application for Letters Patent, to regulate the flow of steam from a boiler to the "driers" or drying-cylinders of a paper-machine.

In the accompanying drawings, A is the valve-chest or valve-chamber, which is in the form of a cylindrical box, having an outlet, *a*, on one side, which connects with the pipe, through which steam is fed to the driers. Into box A are screwed the heads B and C, the former having a stuffing-box, D, through which the valve-stem E passes.

F is the cap or cover of the stuffing-box, which is screwed down upon the packing *d'*, so as to pack the stem of the valve.

The bottom C is cast with a cylindrical box, H, which is closed at the top, but has side openings, *h h*, for the escape of the steam which enters the valve through a pipe screwed into the lower threaded part, C'. One side of box H, between its ports *h h*, has a longitudinal groove or channel, *i*, into which projects the

inner end of a pin, I, inserted through one side of the sliding valve. The cylindrical box H forms a seat for the valve, which consists of a ring or sleeve, K, at the lower end of a yoke, L, to the cross-head L' of which the valve-stem E is fastened. This cross-head has a circular raised part or shoulder, M, encircling the valve-stem, for the purpose hereinafter indicated. The valve-sleeve K is swelled midway between the arms of the yoke, as shown at *k*, and is cut out or arched at its lower beveled rim in a line with the yoke-arms, as shown at *l*. When the valve is placed upon its seat H, the pin I, projecting into the vertical channel *i* of the seat, causes it to be held in its true position relative to the valve-ports *h h*, so as to close or open the same, according to the height at which the valve is elevated on its seat.

N is a coiled spring, which is placed inside of the cylindrical chamber *b* in the top or head B of the valve-box, encircling the valve-stem, which passes freely through it. In raising the valve, so as to open the ports to let on a full head of steam, its circular shoulder or offset M will strike against the lower free end of this spring, and thereby not only cushion the upward motion of the valve, but, by its expansion, start the valve on the downward stroke. The valve-seat and valve are so arranged inside of the valve-chamber that the ports will face the chest or box A on opposite sides of the steam-outlet *a*, so that the valve chest or chamber will be filled with steam before the steam can escape through the outlet. By this arrangement the sliding valve is perfectly balanced whatever its position may be, so that its adjustment can be effected with great nicety and with a minimum of power for operating it. This is of great importance in valves intended to work automatically, in order to insure their successful operation. If desired, the steam may enter the valve at *a* and leave the same through the bottom port, C'.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

The combination of the valve-chest A B C, having ports *a* and C', valve-seat H, made in one piece with the bottom C of the valve-chest,

and having ports *h h* at right angles to port *a* of the chest, sliding valve, consisting of the sleeve *K*, yoke *L L' L*, shoulder *M*, and valve-stem *E*, and spring *N*, projecting with its lower
5 free end down into a circular recess in the top of the valve-chest adapted to fit shoulder *M* of the valve, substantially as and for the purpose herein shown and specified.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

THOMAS P. BARRY.

Witnesses:

LOUIS BAGGER,
ARTHUR L. MORSELL.