

(No Model.)

C. E. DOSTER & W. N. FISHER.
AUTOMATIC FEEDING APPARATUS.

No. 561,500.

Patented June 2, 1896.

Fig. 3.

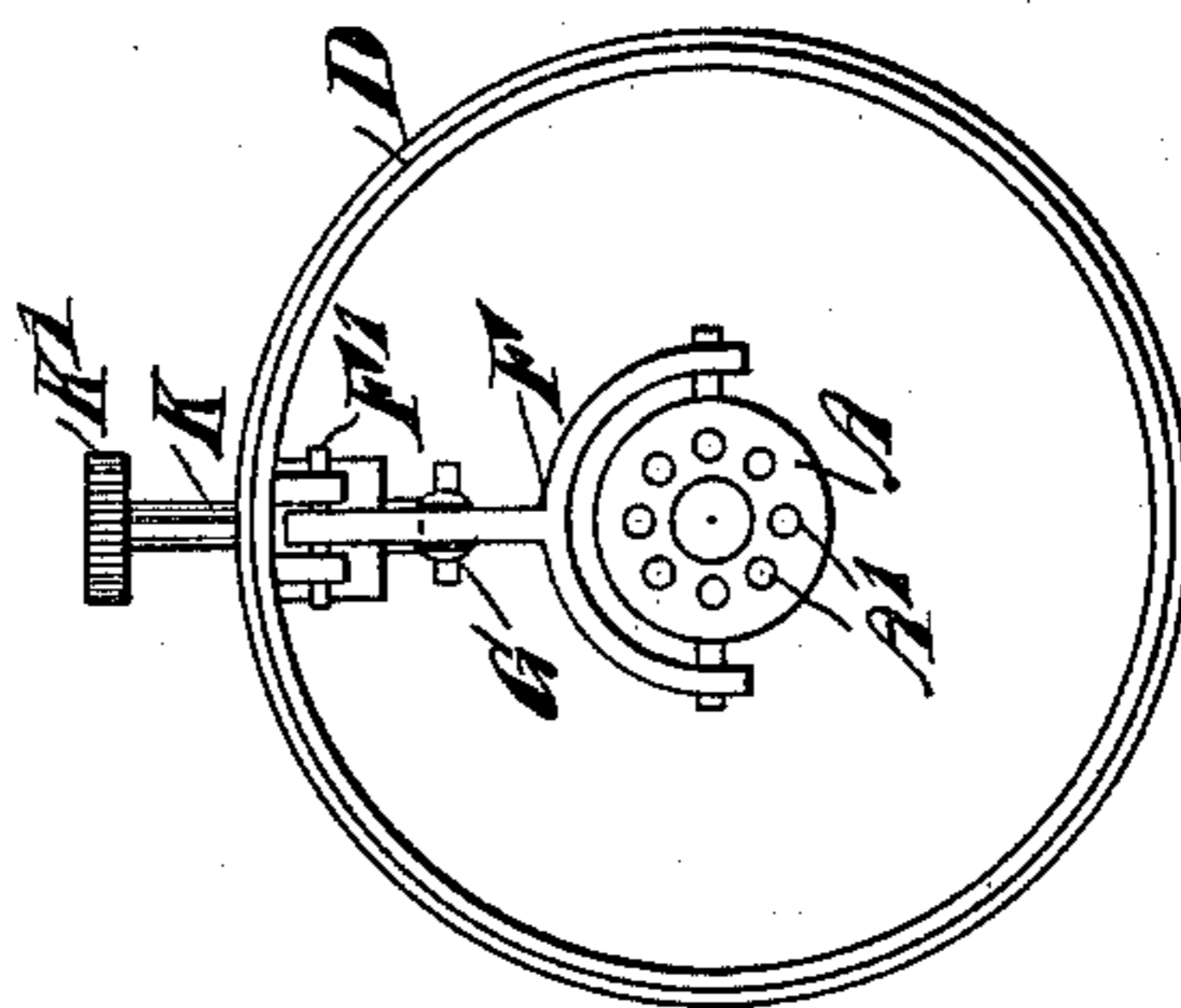


Fig. 1.

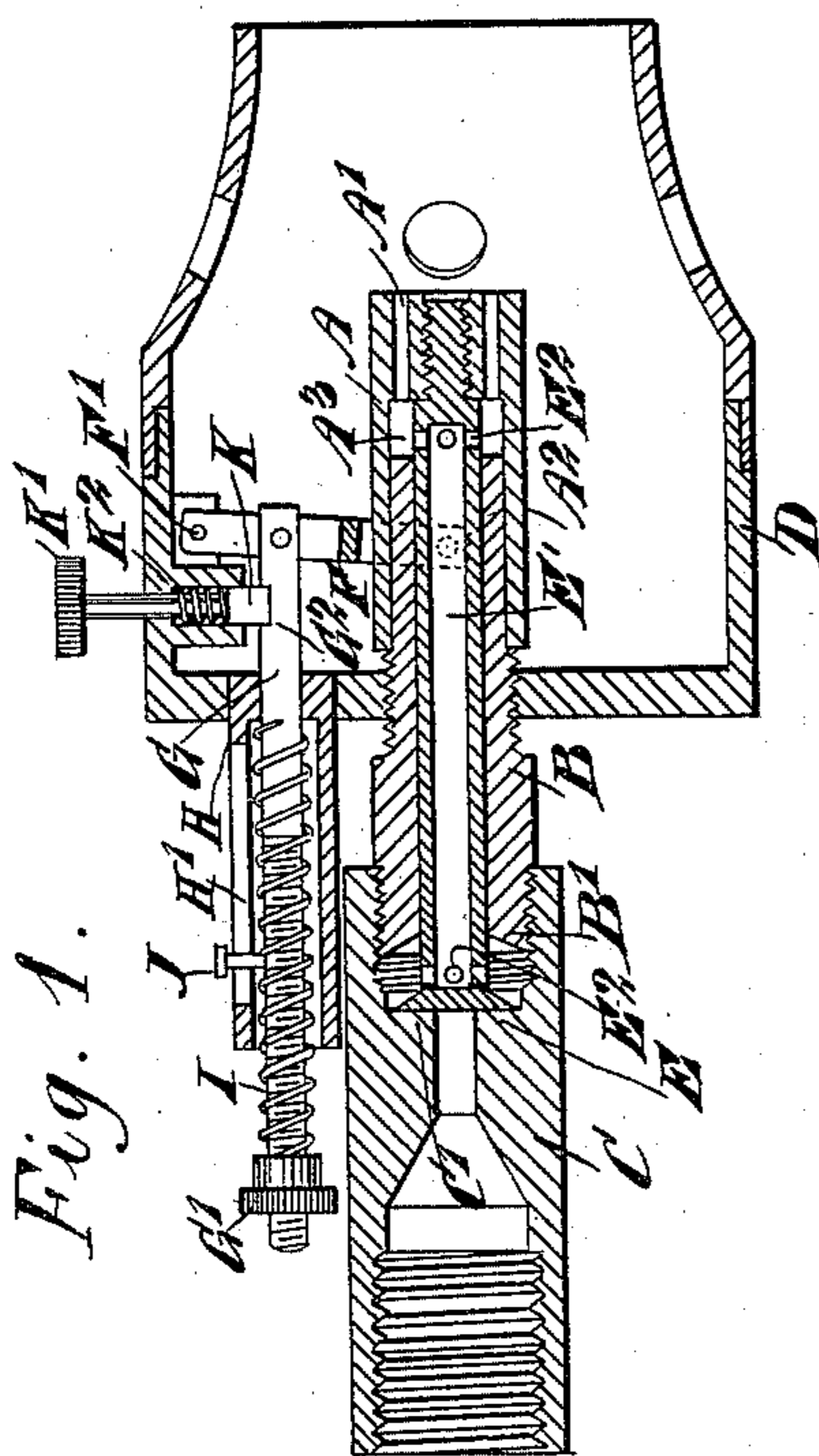
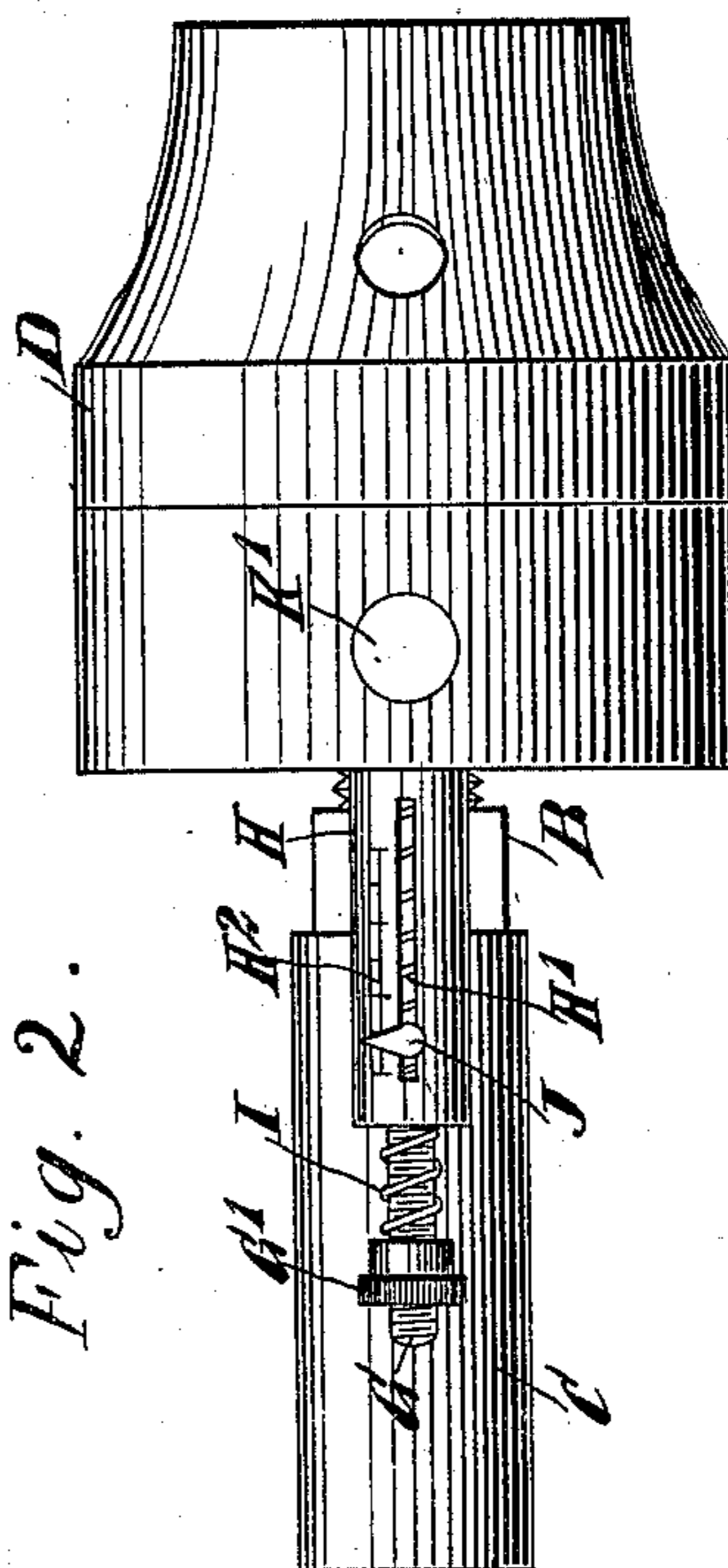


Fig. 2.



WITNESSES:

Henry A. C. Kelly -
Rev. G. Hostet.

INVENTORS

C. E. Doster
W. N. Fisher

B1

mmmm/2

ATTORNEYS.

UNITED STATES PATENT OFFICE.

CHARLES E. DOSTER AND WILLIAM N. FISHER, OF CONVERSE, INDIANA.

AUTOMATIC FEEDING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 561,500, dated June 2, 1896.

Application filed February 24, 1896. Serial No. 580,433. (No model.)

To all whom it may concern:

Be it known that we, CHARLES E. DOSTER and WILLIAM N. FISHER, of Converse, in the county of Miami and State of Indiana, have invented a new and Improved Automatic Feeding Apparatus, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved automatic feeding apparatus more especially designed for use on gas and other supply pipes to regulate the amount of gas passing to the burner, irrespective of the normal pressure in the main, and to cut off the burner from the main in case the pressure is reduced or the supply ceases entirely.

The invention consists principally of a fixed valve-casing and a valve having a hollow stem and fitted to slide in said casing, said stem carrying the burner.

The invention also consists of certain parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional side elevation of the improvement. Fig. 2 is a plan view of the same, and Fig. 3 is an end elevation of the same.

The apparatus, as illustrated in the drawings, is provided with a burner A, formed at its front end with jet-openings A', through which passes the gas to be ignited and burned, the rear cylindrical part of said burner being fitted to slide on one end of a valve-casing B, secured at its other end to a service-pipe C, connected with the main. On the casing B is secured an air-chamber D, having the usual apertures for admitting the necessary amount of air for proper combustion of the burning gas. The end of the valve-casing B next to the service-pipe C is formed with a valve-seat B', on which is adapted to be seated a valve E, also adapted to be seated with its base on a seat C', formed in the service-pipe C, so as to shut off the gas from the burner, as hereinafter more fully described.

The valve E is provided with a hollow valve-stem E', fitted to slide in the casing B and rigidly

connected at its forward end to the burner A, so that the burner and valve move together. The valve-stem E' is provided next to the valve E with inlet-openings E² for permitting the gas from the service-pipe C to pass into the hollow valve-stem and along the same to the openings E², which discharge the gas into an annular chamber A³, formed at the end of the valve-casing B, as plainly shown in Fig. 1. This chamber A³ is in communication with the jet-openings A', to permit the gas to pass through the latter to be burned in the usual manner.

The cylindrical end A² of the burner is pivotally connected with the forked end of a lever F, fulcrumed at F' in the chamber D and pivotally connected with a rod G, fitted to slide longitudinally in a bearing H, secured to the chamber D. The rod G is pressed on by a spring I, resting with one end on the inner end of the bearing H and with its outer end pressing against a nut G', screwing on the outer threaded end of the rod G to permit of regulating the tension of the spring I.

Now it will be seen that the spring I has a tendency to pull on the lever F, so as to hold the burner A in an innermost position and the valve E off the seat B' to permit the gas to pass from the service-pipe C into and through the hollow stem E' and to the jet-openings A', as previously explained.

The pressure of the gas from the service-pipe C is exerted against the base of the valve E, so that on an increase of pressure above that for which the burner is set the stem E' is pressed outwardly, whereby the supply of gas passing from the service-pipe C to the hollow stem E' is regulated, and consequently only the proper amount of gas passes to the burner irrespective of the pressure in the main. In case the main is cut off at the central station the spring I will cause the valve E to move against the seat C', thereby shutting off the service-pipe C and preventing any gas from passing to the burner, it being understood that if this were not done gas standing in the main and service-pipe would escape through the burner into the house.

In order to indicate the pressure, we provide the rod G with a pointer J, the shank of which extends through a longitudinal slot H' in the

bearing H, and said pointer indicates on a graduation H^2 , formed on said bearing. (See Fig. 2.)

In order to lock the valve E in place when seated on the seat C' , we provide the rod G with a notch G^2 , adapted to be engaged by a catch K, held in the chamber D and pressed upon by a spring K^2 , as shown in Fig. 1, the catch being provided at its outer end with a knob K' , adapted to be engaged by the operator, so as to pull the catch K out of engagement with the notch G^2 after the gas is again turned on in the main.

Now it will be seen that the catch K is normally out of engagement with the notch G^2 ; but when the pressure in the main ceases and the spring I moves the valve E into a closed position then said catch drops into the notch G^2 and thereby locks the rod G, lever F, burner A, and valve E in position.

Having thus fully described our invention, we claim as new and desire to secure by Letters Patent—

1. An apparatus of the class described, comprising a fixed valve-casing connected with a service-pipe, and a valve having a hollow stem and fitted to slide in said casing and carrying the burner, said stem being provided with inlet and outlet openings, substantially as shown and described.

2. An apparatus of the class described, comprising a fixed valve-casing having a valve-seat and connected with a service-pipe, a valve for controlling the gas passing from said service-pipe, a hollow stem for the valve having inlet and outlet openings, and a burner carried by said hollow stem, substantially as shown and described.

3. An apparatus of the class described, comprising a fixed valve-casing having a valve-

seat and connected with a service-pipe, a valve for controlling the gas passing from said service-pipe, a hollow stem for the valve having inlet and outlet openings, a burner carried by said hollow stem, and means, substantially as described, for holding said valve and burner in position to yield according to the pressure of the gas passing from the service-pipe to the valve-casing, as set forth.

4. An apparatus of the class described, comprising a fixed valve-casing having a valve-seat and connected with a service-pipe, a valve for controlling the gas passing from said service-pipe, a hollow stem for the valve having inlet and outlet openings, a burner carried by said hollow stem, means, substantially as described, for holding said valve and burner in position to yield according to the pressure of the gas passing from the service-pipe to the valve-casing, and a locking device for locking said burner and valve in a closed position, as set forth.

5. An apparatus of the class described, comprising a fixed valve-casing having a valve-seat and connected with a service-pipe, a valve for controlling the gas passing from said service-pipe, a hollow stem for the valve having inlet and outlet openings, a burner carried by said hollow stem, means, substantially as described, for holding said valve and burner in position to yield according to the pressure of the gas passing from the service-pipe to the valve-casing, and an indicator for indicating the pressure of the gas on said valve, substantially as described.

CHARLES E. DOSTER.

WILLIAM N. FISHER.

Witnesses:

JOHN BOND,

WILLIAM R. POWELL.