

F. F. MAIN.  
COMPUTING OR ADDING MACHINE.  
APPLICATION FILED JUNE 2, 1909.

953,276.

Patented Mar. 29, 1910.

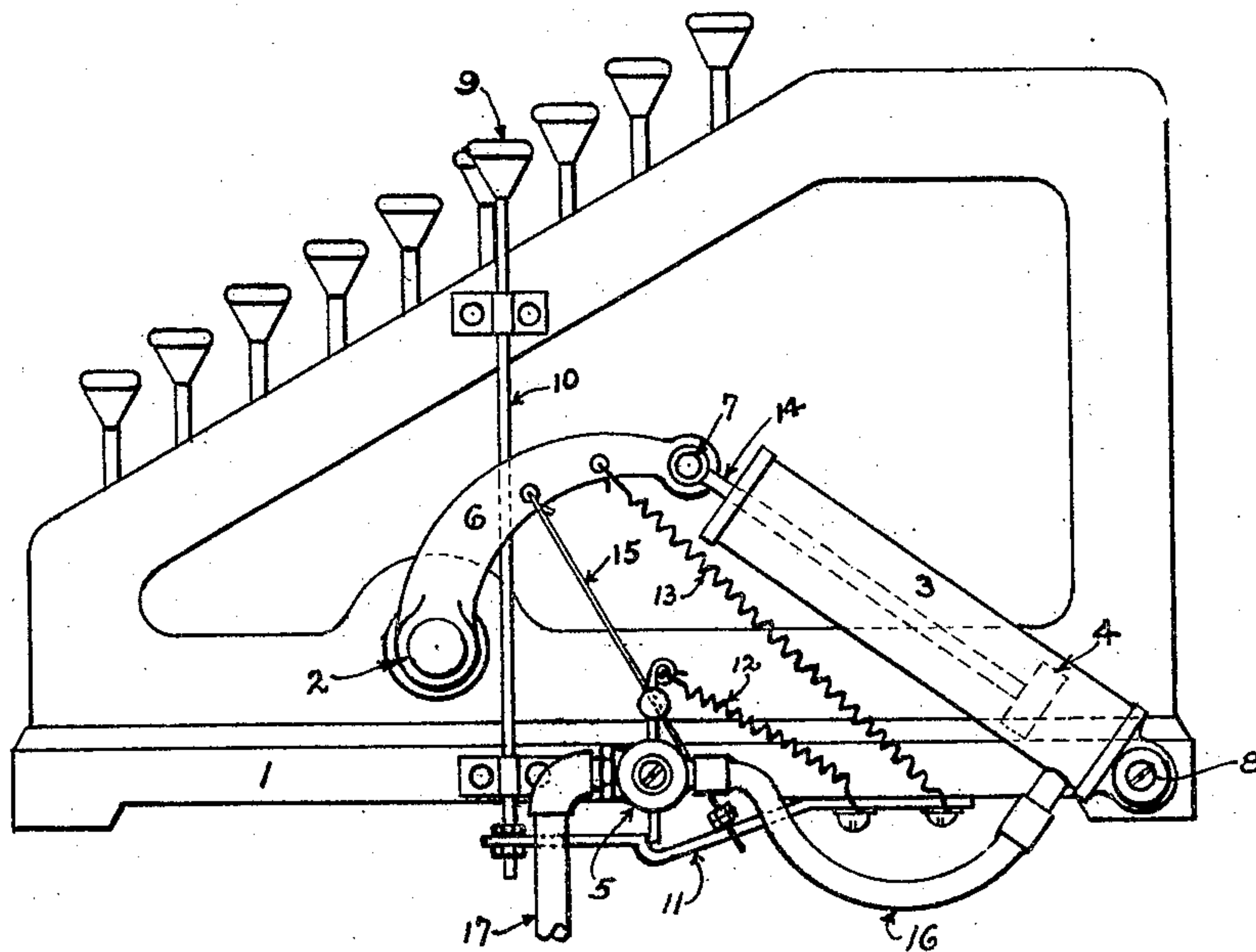


FIG. 1.

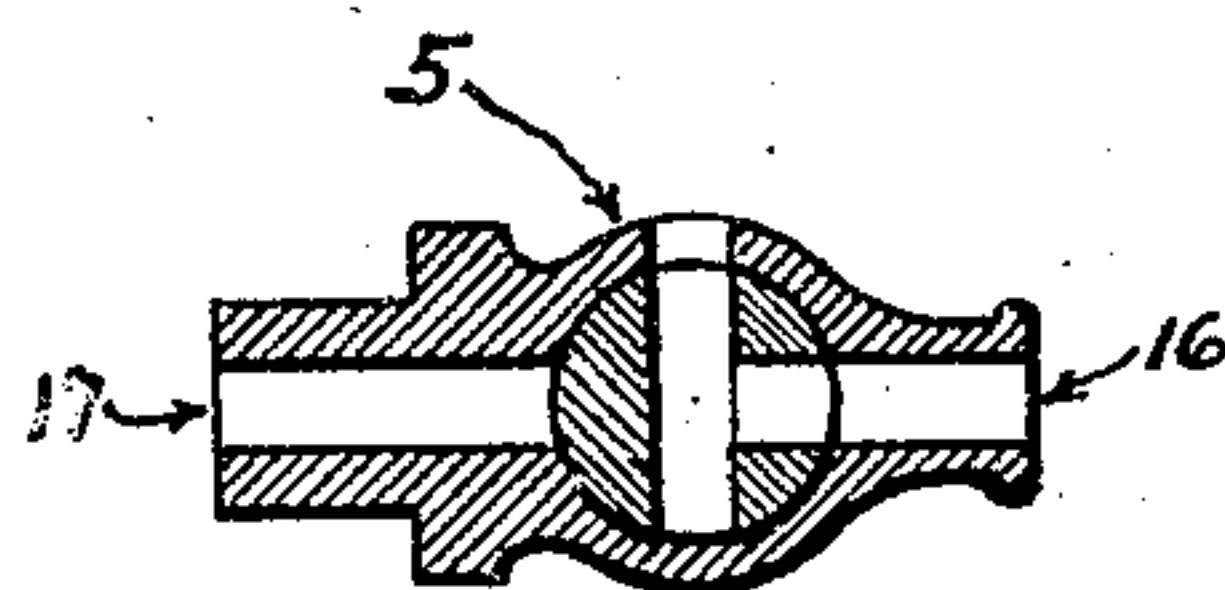


FIG. 2.

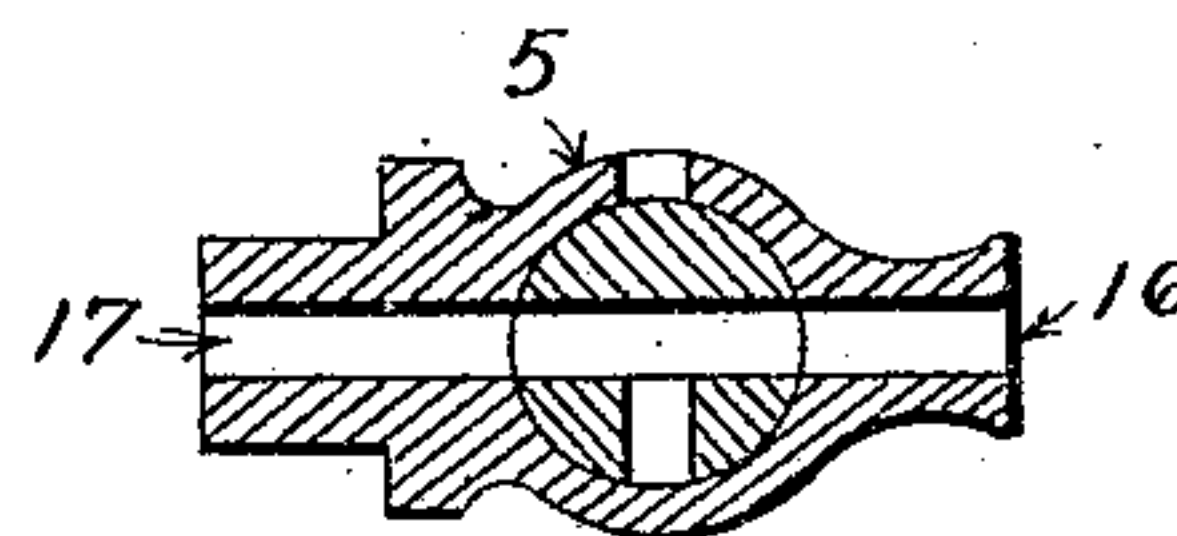


FIG. 3.

WITNESSES

*J. B. Hayes*  
*Minnie K. Hayes*

INVENTOR

*Fred F. Main*

# UNITED STATES PATENT OFFICE.

FRED F. MAIN, OF COLUMBUS, OHIO.

COMPUTING OR ADDING MACHINE.

953,276.

Specification of Letters Patent.

Patented Mar. 29, 1910.

Application filed June 2, 1909. Serial No. 499,665.

To all whom it may concern:

Be it known that I, FRED F. MAIN, a citizen of the United States, residing at 1486 Pennsylvania avenue, Columbus, in the county of Franklin and State of Ohio, have invented a new and useful Improvement in Adding-Machines, of which the following is a specification.

My invention relates to improvement in the manner of operating the lever or other actuating device after the proper keys are pressed, and which is now performed by hand or separate electric motor. I attain this object by the mechanism illustrated in the accompanying drawing, in which—

Figure 1, is a side elevation of the usual form of adding machine, showing the attachment of my improvement. Fig. 2 is a sectional view of the three way valve. Fig. 3 is a view similar to Fig. 2, the valve being in a different position.

The usual operating lever is removed and the curved lever or crank is placed on the operating shaft 2.

1 is the base of the machine, 3 is the cylinder of my improvement, 4 the piston in the cylinder, 5 the valve, 6 is the operating lever, 7 is the crank pin, 8 is the pivot support for the cylinder, 9 is the valve-operating key, 10 the key extension, 11 valve locking spring, 12 the valve operating spring, 13 lever tension spring, 14 stuffing box, 15 valve closing rod.

The operation of my improvement is as follows: The keys representing the number to be recorded are pressed then key 9 which releases spring 11 allowing spring 12 to open valve 5 thus admitting air or other agent to the cylinder 3 and to force piston 4 forward with the operating lever to which the piston is attached. The final forward movement of the operating lever closes valve 5 by means of rod 15. The closing of the valve 5 opens the cylinder to the outer air or exhaust while closing it to the power supply. The tension spring 13 quickly returns the operating lever to normal position.

Having thus described my invention, what I claim and desire to secure by Letters Patent is—

1. In combination with an adding machine having an actuating lever, a pneumatic cylinder containing a piston, connection between said piston and the operating lever of said machine, a three way valve controlling the admission of air to said cylinder, an operating spring to said valve, a latch to hold said valve in the closed position, an element actuated by said actuating lever, to close said valve at the completion of the forward movement of said actuating lever, a key to release said locking latch.

2. In combination with an adding machine having an actuating lever, a pneumatic cylinder containing a piston said piston connected to the said actuating lever, a three way valve controlling the admission of air to said cylinder, a key adapted to open said valve, a spring to close said valve, all substantially as specified.

3. In combination with the actuating lever of a calculating machine, a reciprocable fluid operated piston attached thereto, a releasable three-way valve automatically movable upon such release to a position to render such fluid effective to operate said piston, and means connected to the said actuating lever to return said valve to normal position whereby the fluid is rendered ineffective with respect to said piston.

4. In combination with the actuating lever of a calculating machine, a piston connected to said lever, a cylinder within which said piston operates, a three-way valve controlling admission of air to said cylinder and normally in position to permit exhaust of air from said cylinder, a button operated catch for maintaining said valve in normal position, means for moving said valve to a position to admit air to said cylinder upon operation of said catch, and means connected to said lever and to said valve for returning the valve to normal position upon complete extension of said piston.

FRED F. MAIN.

Witnesses:

J. B. HAYES,  
MINNIE K. HAYES.