

Oct. 7, 1930.

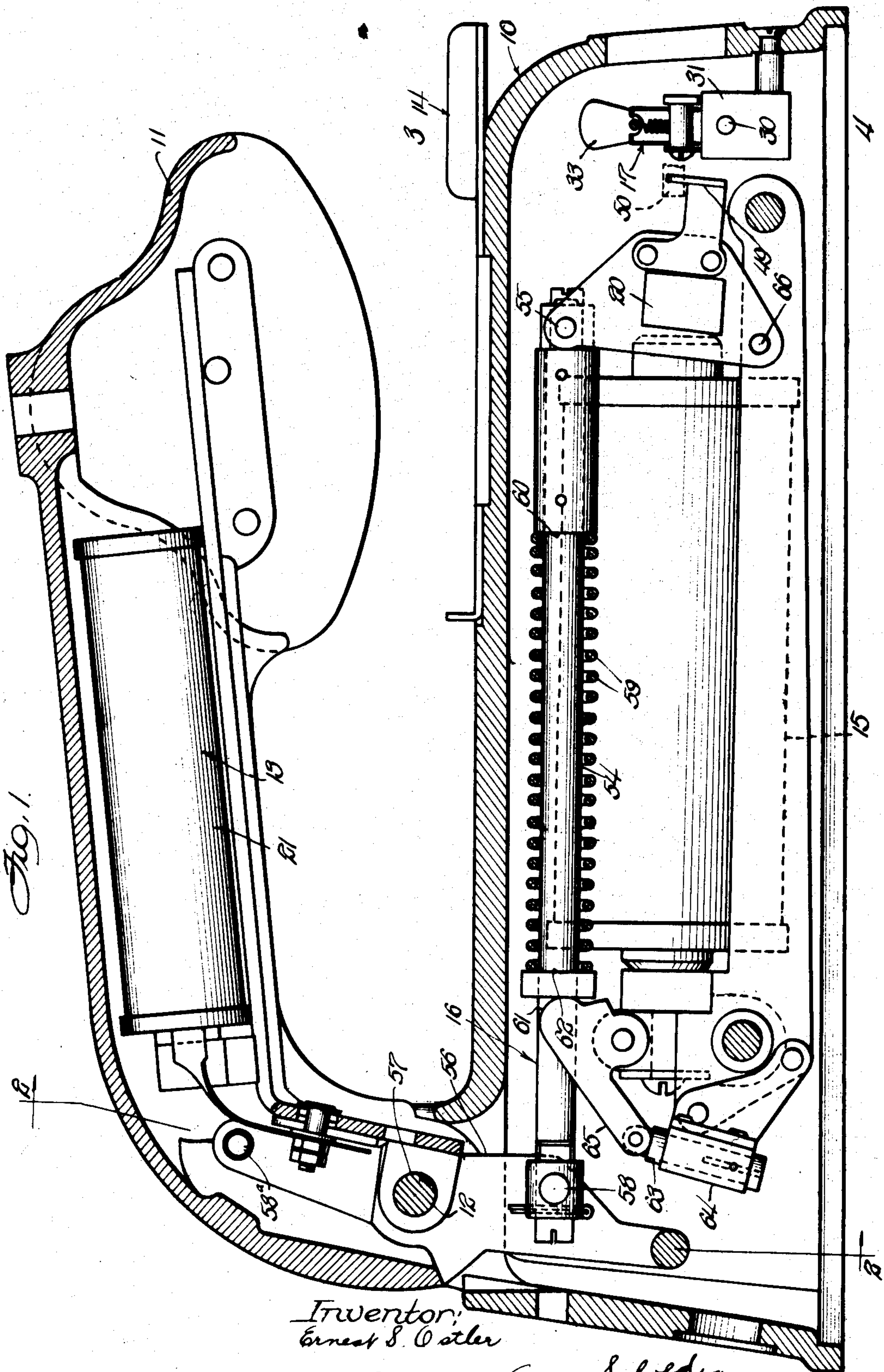
E. S. OSTLER

1,777,889

TIME STAMP

Filed Aug. 8, 1924

5 Sheets-Sheet 1



Inventor:
Ernest S. Ostler

By Jones, Addington, Ames & Seibold
Attys.

Oct. 7, 1930.

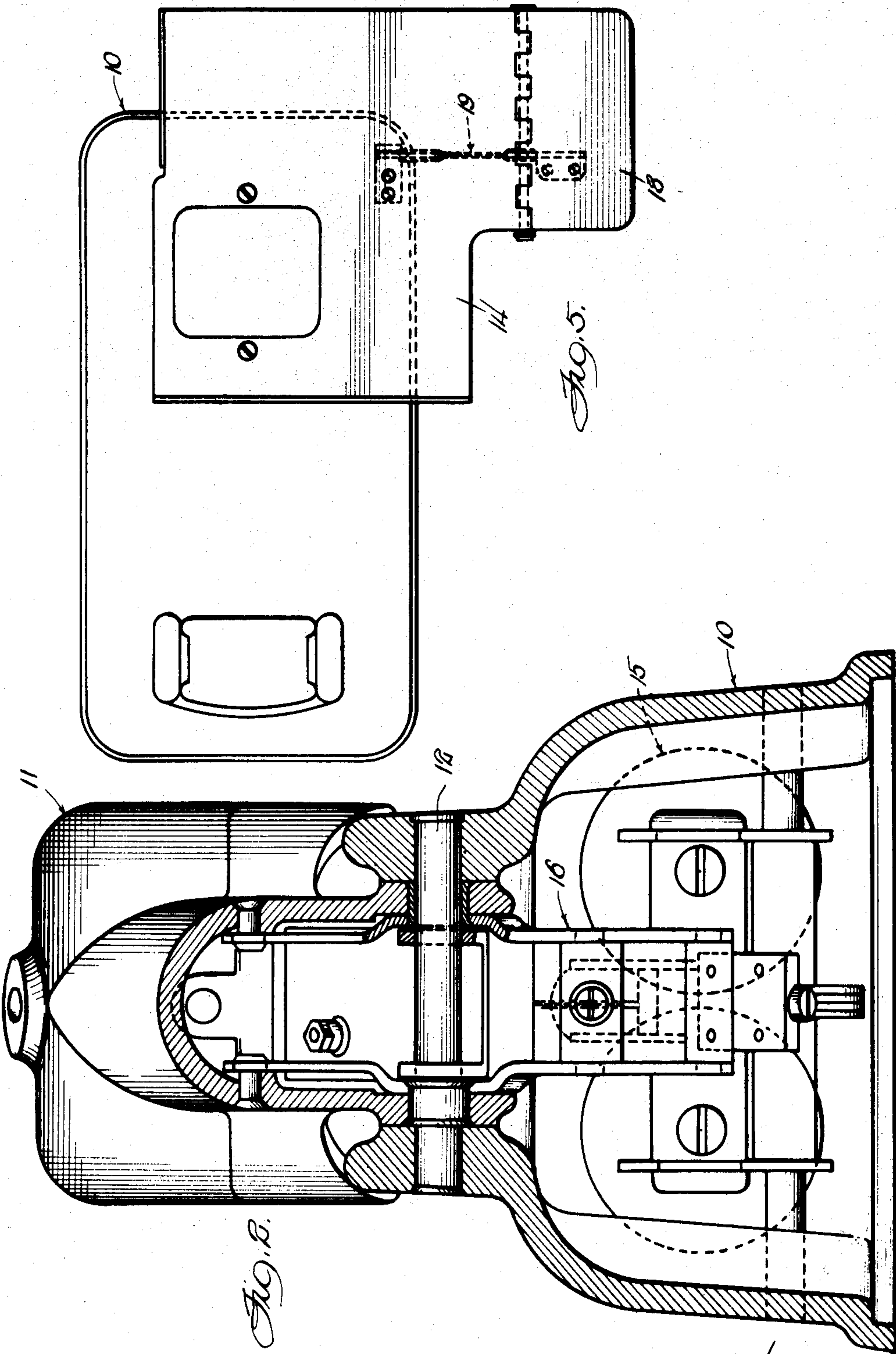
E. S. OSTLER

1,777,889

TIME STAMP

Filed Aug. 8, 1924

5 Sheets-Sheet 2



Inventor:
Ernest S. Ostler

By Jones, Addington, Ames & Seibold
[Signature]

Oct. 7, 1930.

E. S. OSTLER

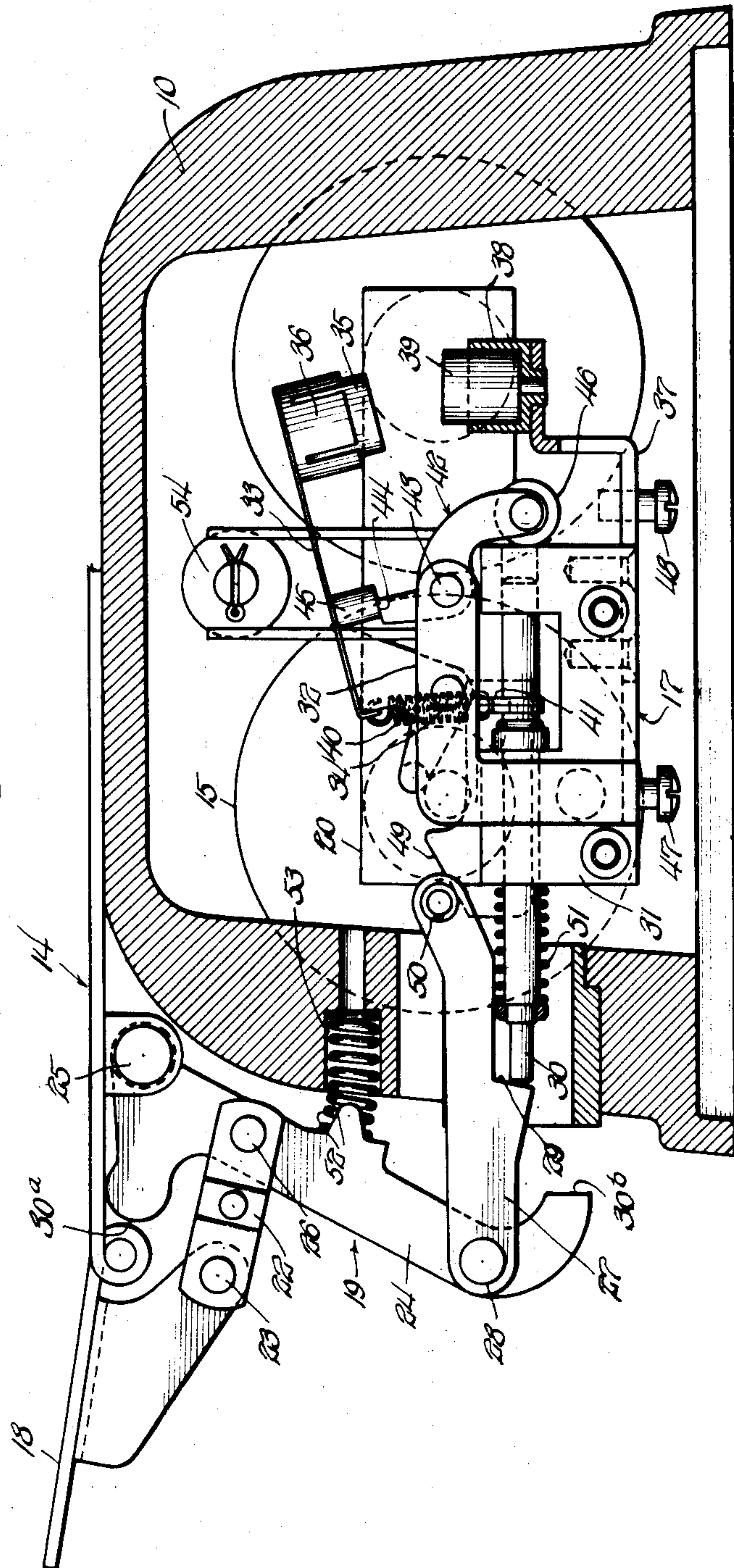
1,777,889

TIME STAMP

Filed Aug. 8, 1924

5 Sheets-Sheet 3

Fig. 3.



Inventor:
Ernest S. Ostler

By
Jones, Ardington, Ames & Seibold
Attys.

Oct. 7, 1930.

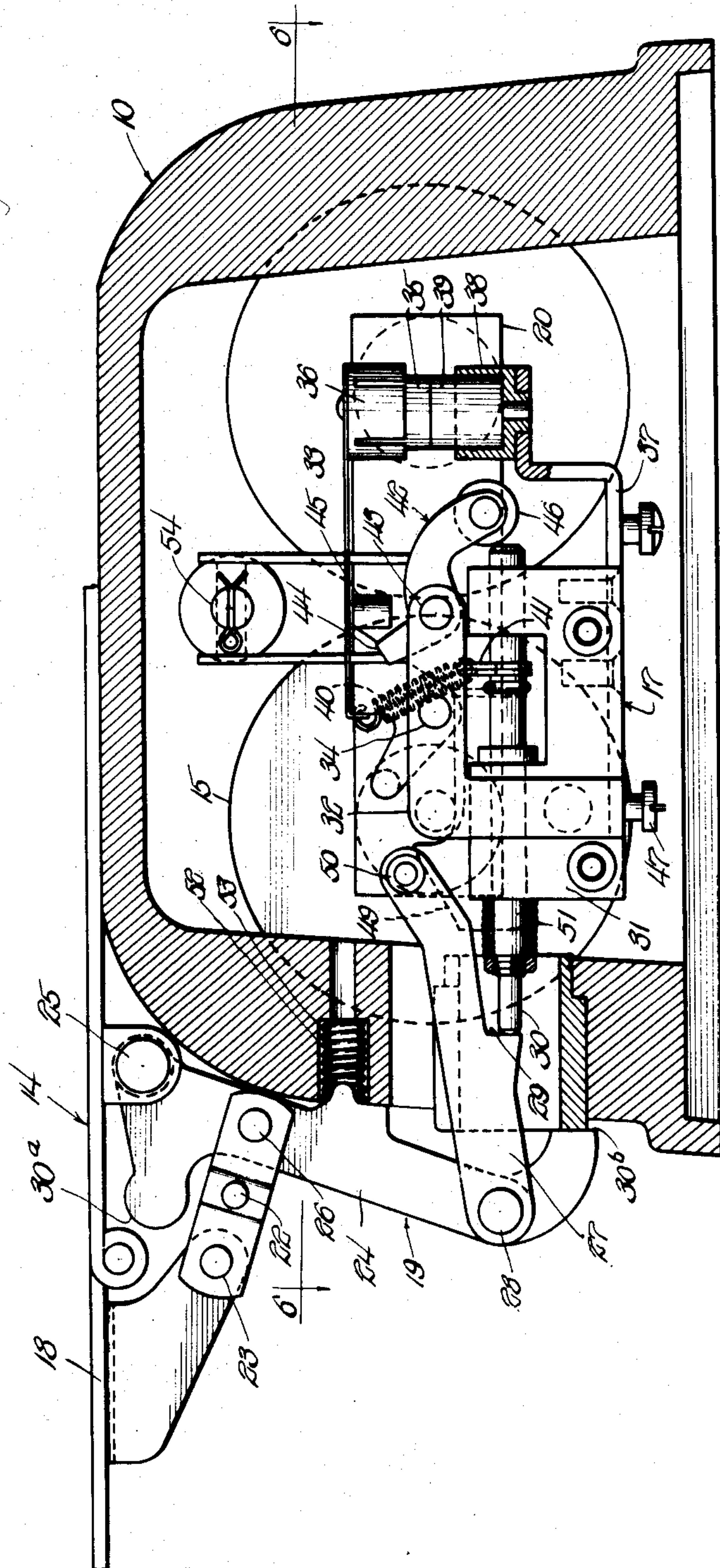
E. S. OSTLER

1,777,889

TIME STAMP

Filed Aug. 8, 1924

5 Sheets-Sheet 4



Feb 4.

Inventor:
Ernest S. Ostler

By Jones, Addington, Ames & Seibold attys.

Oct. 7, 1930.

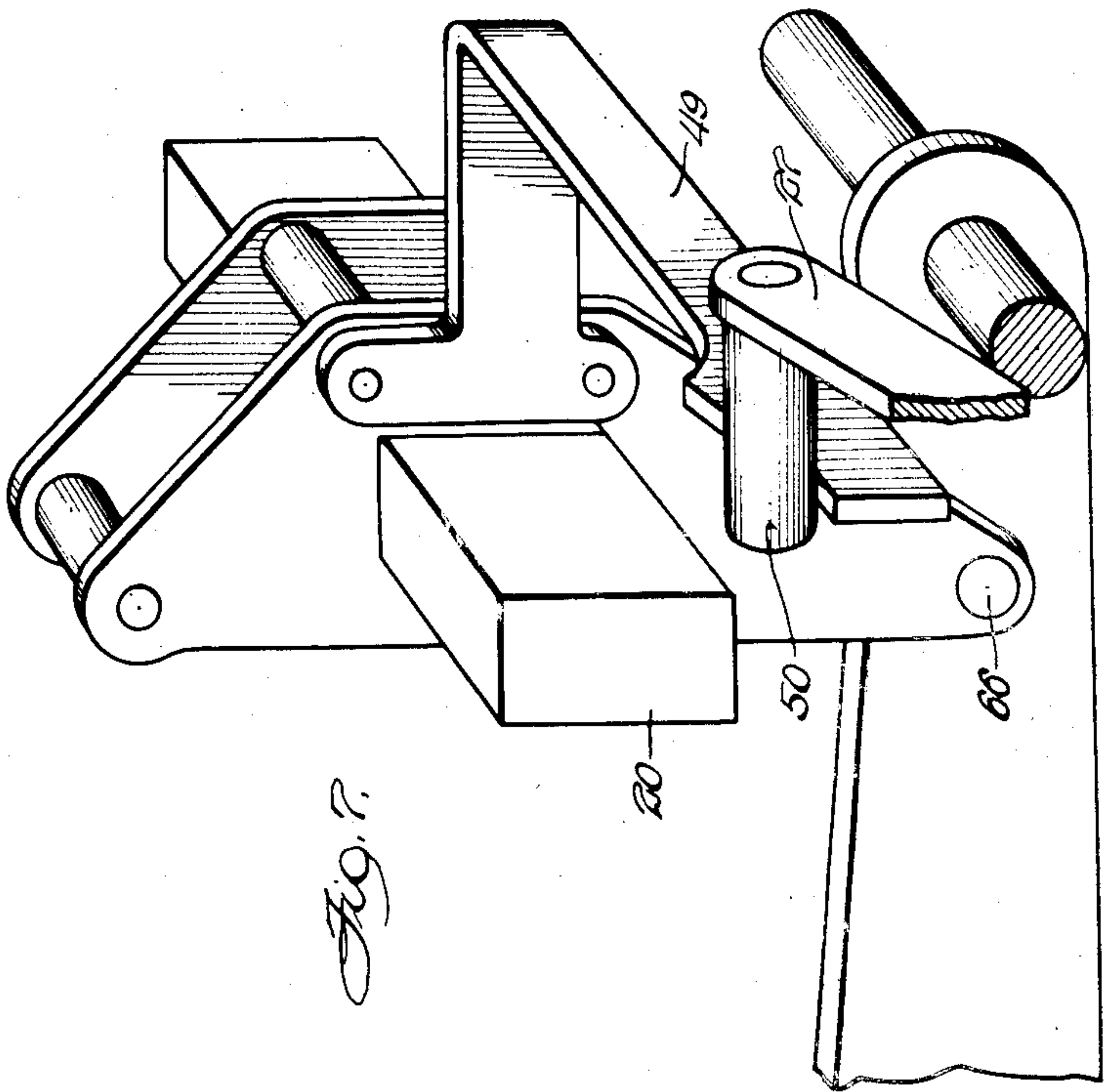
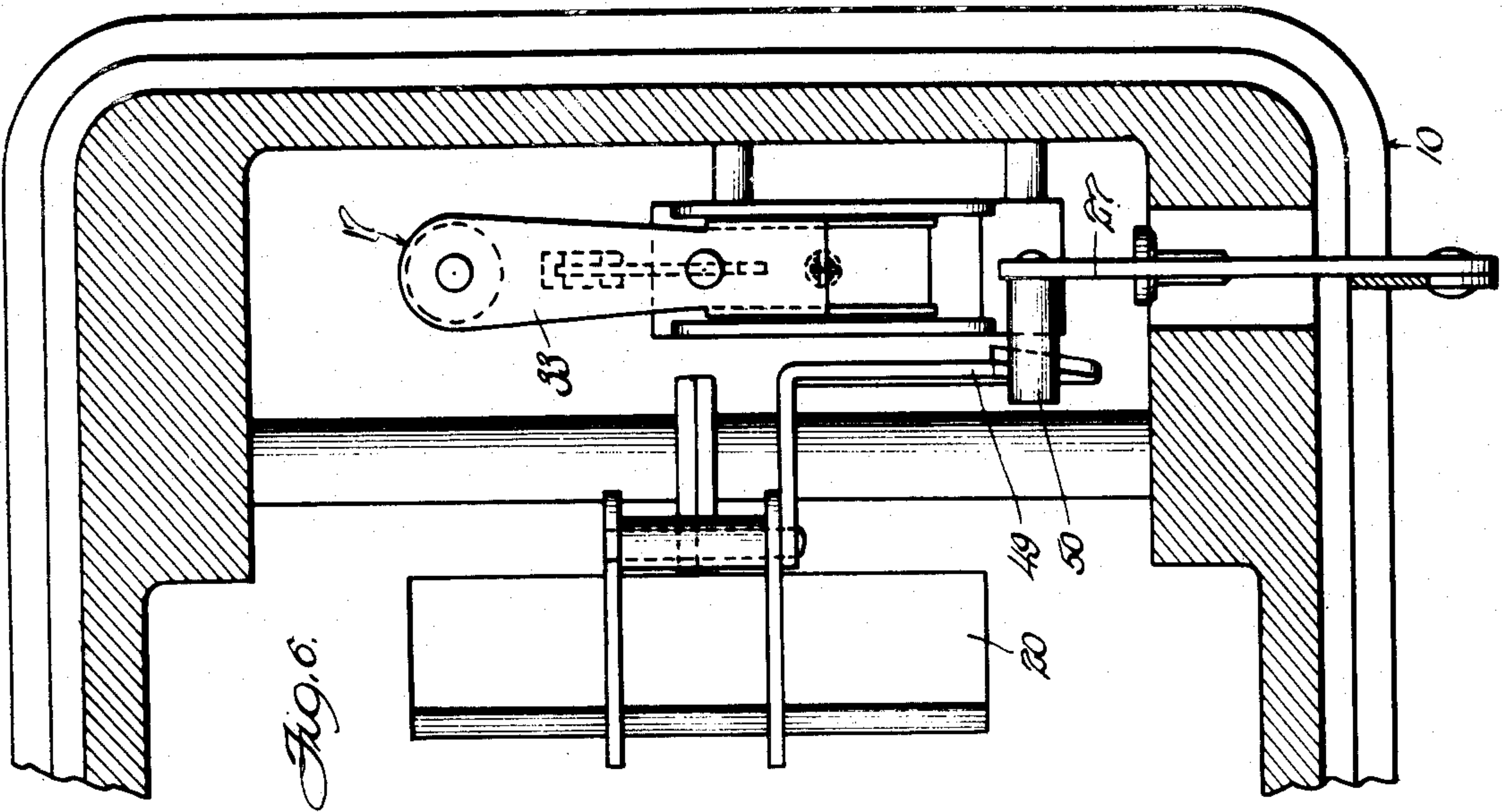
E. S. OSTLER

1,777,889

TIME STAMP

Filed Aug. 8, 1924

5 Sheets-Sheet 5



Inventor:
Ernest S. Ostler

By Jones, Addington, Ames & Seiberg.
Attys

UNITED STATES PATENT OFFICE

ERNEST S. OSTLER, OF CHICAGO, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO
STROMBERG ELECTRIC COMPANY, A CORPORATION OF DELAWARE

TIME STAMP

Application filed August 8, 1924. Serial No. 730,822.

My invention relates to time stamps and more particularly to electromagnetically operated time stamps.

One of the objects of my invention is to provide an improved electromagnetically operated time stamp having means whereby the hand of the operator positioning the paper or papers to be stamped can operate a device which will energize an electromagnet to cause the stamp head to operate.

A further object of my invention is to provide a magnetically operated time stamp having means whereby the operation of the electromagnet will automatically cause the deenergizing of the electromagnet to prevent the stamp head from being held down too long.

Further objects will appear from the description and claims.

In the drawings, in which an embodiment of my invention is shown:—

Figure 1 is a longitudinal vertical section of a time stamp;

Fig. 2 is a section on the line 2—2 of Fig. 1;

Fig. 3 is a section on the line 3—4 of Fig. 1 showing the magnet-controlling switch open;

Fig. 4 is a section on the line 3—4 of Fig. 1 showing the switch closed;

Fig. 5 is a plan view of the time stamp with the stamp head removed;

Fig. 6 is a section on the line 6—6 of Fig. 4; and

Fig. 7 is a perspective view of the magnet release mechanism.

Referring now to the drawings in detail, the time stamp shown therein comprises a metal casing member 10 forming a base, a metal stamp head 11 oscillatable up and down and pivoted at 12 to said base, electrically controlled secondary clock time stamp mechanism 13 carried by said head, a platen 14 for supporting the papers to be stamped, an electromagnet 15 in said casing base for operating the stamp head, transmission 16 from said electromagnet to said stamp head, and a switch 17 in the base for controlling the circuit of the electromagnet.

The platen is provided with a pivoted depressible portion 18, which can be depressed by the operator when placing papers in position to be stamped. Transmission 19 is pro-

vided from this pivoted platen portion to the switch whereby when this platen portion is depressed, the switch will be closed causing the electromagnet to be energized and causing the operation of the stamp head.

Means are also provided whereby as the armature 20 of the electromagnet is actuated to bring down the stamp head it will automatically open the switch to deenergize the magnet and permit the stamp head to fly up again almost the instant it makes an impression.

The specific construction of the secondary clock time stamp mechanism is not important so far as the invention claimed herein is concerned. Any suitable secondary clock mechanism may be used comprising type wheels, advanced periodically by the periodic energization of the electromagnet 21 carried by the stamp head.

The transmission from the pivoted platen portion to the magnet controlling switch comprises a link 22 pivotally connected at 23 to the depressible platen portion, a rock arm 24 pivotally mounted at 25 and pivotally connected at 26 to the link 22, and a swingable link 27 pivotally connected at 28 to the rock arm 24, and having a shoulder portion 29 engageable with the plunger member 30 of the switch mechanism. For limiting the movement of the rock arm 24, two stops 30^a and 30^b are provided, the stop 30^a engaging the underside of the platen and the stop 30^b engaging the side of the casing 10.

In time printing devices it is highly desirable that the stamping action should be uniform in order to secure uniform printing. In order to secure uniform stamping and printing action I provide a switch construction in which the contact-making action is substantially uniform, no matter whether the manual action which results in the contact-making action is made quickly or slowly. For this purpose I provide a spring for closing the switch and a retaining latch for holding it open, which automatically releases the switch to permit it to close under spring action when the paper is inserted. The switch-closing action, and consequently the amount of current supplied to the solenoid,

will thus be the same regardless of the speed with which the paper is inserted.

The switch mechanism itself comprises in addition to the plunger 30, a switch frame 31 of insulating material in which the plunger is slidably mounted, a bracket 32 mounted on the switch frame, a switch arm 33 pivoted at 34 on the bracket, a carbon contact 35 fitting in a socket 36 on the switch arm, a bracket 37 mounted on the switch frame, a contact socket 38 mounted on the bracket 37, a carbon contact piece 39 fitted in the contact socket 38 and cooperating with the other carbon contact, a coil tension spring 40 connected at one end with the switch arm 33, and at its other end to an insulating anchor 41 carried by the spring shifting plunger 30, and a detent 42 pivoted at 43 and having a shoulder portion 44 engaging the pin 45 mounted on the switch arm and carrying an insulating member 46 engaged and operated by the end of the plunger 30. The switch is provided with binding screws 47 and 48, the binding screw 47 being threaded into the metal bracket 32 which carries the pivoted switch arm, and the binding screw 48 being threaded into the bracket 37 which carries the fixed carbon contact 39. The circuit is from the binding screw 47 through the bracket 32, switch arm 33, carbon contacts 35 and 39 and bracket 37 to the other binding screw 48.

This switch is placed in series with the electromagnet coil so that when closed the electromagnet will be energized. The operation of the switch mechanism will now be described.

When the pivoted platen portion 18 is depressed as shown in Fig. 4, it causes the shoulder 29 of the swinging link 27 to push the plunger in. The first part of this plunger movement carries the tension spring 40 past its dead center position, but the switch arm is held against movement by the engagement of the pivoted detent 42 with the switch arm, until the shoulder portion 44 of the detent is moved out from underneath the switch arm. As soon as this takes place, the stored-up energy in the tension spring causes a quick snap action of the switch arm to bring the contacts into engagement with each other to close the magnetic circuit. This closing of the magnetic circuit causes actuation of the armature 20 thereby causing the depression of the stamp head, by transmission to be described in detail hereafter.

This actuation of the armature of the electromagnet lifts the swinging arm 27 by means of the finger 49, which acts on the pin 50 (Fig. 7) to raise the shoulder portion 29 out of engagement with the plunger 30, whereupon the coil compression spring 51 immediately throws the plunger to the left as shown in Fig. 3, causing the switch to move to off position and the magnet to be deenergized. For returning the pivoted platen por-

tion when released by the operator, a coil compression spring 52 is provided seated in a recess 53 in the base and having one end engaging the rocker arm 24.

The transmission from the pivoted armature 20 to the pivoted stamp head 11 comprises a link 54 connected at 55 to the armature, and a rock lever 56 pivotally mounted at 57, and pivotally connected at 58 to the link 54. This rock lever is rigidly secured with respect to the pivoted stamp head in any suitable manner as by a pin 58^a extending through the rock lever and secured to the swinging stamp arm or head.

The stamp head is raised when the electromagnet is deenergized by means of a coil compression spring 59, one end of which engages a shoulder member 60 on the link 54, and the other end of which is supported by a pivoted adjustable abutment 61 which engages the collar 62 on which the other end of the spring is seated. This pivoted abutment may be adjusted in any suitable manner as by means of a screw 63 in the bracket 64 and engaging the arm 65 of the pivoted abutment.

In use, if it is desired to impress a time stamp on a sheet, the sheet is placed on the platen underneath the stamp head and the operator while positioning the sheet, presses down on the pivoted platen portion 18. This will close the switch through the transmission, previously described, energizing the electromagnet and causing the stamp head to make the desired impression.

As the armature 20 swings about its pivot 66, it will at the proper time lift the swinging arm 27 to disengage it from the plunger 30 whereupon the switch will fly open deenergizing the electromagnet and permitting the spring 59 to return the stamp head to its raised position. This automatic release of the electromagnet prevents excessive use of current and also prevents the stamp head from being held down an excessive length of time. This quick release of the stamp head is particularly desirable in time stamps provided with secondary clock mechanism, as the type wheels must not be held in contact with the sheet to be stamped during the periodic movement of the type wheels controlled by the primary clock mechanism.

It will be seen that the construction is such that it may be operated with one hand. The operator can place a sheet of paper underneath the stamp head and cause the actuation of the stamp head with one hand, leaving the other hand free for other work.

I claim:

1. A time stamp comprising a base, a table for supporting the papers to be stamped, a stamp head mounted on said base and movable back and forth and cooperating with said table for stamping the papers thereon, and manually controllable power means for caus-

ing the actuation of said stamp head comprising a manually operable member carried by said base and adjacent said table and operable by pressure of the hand while holding the papers on said table in position for stamping.

2. A time stamp comprising a stamp head oscillatable up and down, a platen for cooperation with said stamp head, said platen having a depressible portion, an electromagnet, transmission from said electromagnet to said stamp head for operating the latter, a switch for controlling the circuit of the electromagnet, and transmission from said platen portion to said switch for actuating it whereby depressing the platen portion will move the switch to "on" position.

3. A time stamp comprising a stamp head oscillatable up and down, a platen for cooperation with said stamp head, said platen having a depressible portion, an electromagnet, transmission from said electromagnet to said stamp head for operating the latter, a switch for controlling the circuit of the electromagnet, and transmission from said platen portion to said switch for actuating it whereby depressing the platen portion will move the switch to "on" position, said transmission comprising a releasable member for holding said switch in "on" position, released when the stamp head is actuated.

4. A time stamp comprising a stamp head oscillatable up and down, a platen for cooperation with said stamp head, said platen having a pivoted depressible portion, an electromagnet, transmission from said electromagnet to said stamp head for operating the latter, a switch for controlling the circuit of the electromagnet, transmission from said pivoted platen portion to said switch for actuating it whereby depressing the platen portion will move the switch to "on" position, said switch mechanism comprising a plunger, the platen switch transmission comprising a swingable member engageable with said plunger and movable to release said plunger by its swinging movement, a spring for returning said plunger when released to move the switch to "off" position, said switch mechanism comprising also a contact member controlled by said plunger, and means actuated by the armature of the electromagnet for actuating said swingable member to release said plunger whereby the electromagnet when energized will cause itself to become de-energized.

5. A time stamp comprising a stamp head movable back and forth, an electromagnet, transmission from said electromagnet to said stamp head for operating the latter, a switch for controlling said electromagnet comprising a contact member, a spring shifting member, and a spring connecting said contact member and said spring shifting member, a spring tending to hold said spring shifting

member in "off" position, a manually operable member movable from a first to a second position for moving said spring shifting member from "off" to "on" position, and means controlled by the stamping movement of the stamp head for releasing said spring shifting member from the control of the manually operable member when in said second position to permit the spring shifting member to move to "off" position while the manually operable member remains in second position.

6. A time stamp comprising a casing forming a horizontally extending base and provided with a support thereabove for the papers to be stamped, a stamp head oscillatable back and forth and pivoted adjacent one end of said base, an electromagnet in said base for actuating said stamp head, the armature of said electromagnet being adjacent the end of the base opposite that at which the stamp head is pivoted, and transmission from said armature to said stamp head comprising a plunger in said base extending longitudinally thereof and actuated by said armature, and a spring surrounding said plunger and acting to return it.

7. A time stamp comprising a casing forming a horizontally extending base and provided with a support thereabove for the papers to be stamped, a stamp head oscillatable back and forth and pivoted adjacent one end of said base, an electromagnet in said base for actuating said stamp head, the armature of said electromagnet being adjacent the end of the base opposite that at which the stamp head is pivoted, and transmission from said armature to said stamp head comprising a plunger in said base extending longitudinally thereof and actuated by said armature, a spring for returning said plunger, and means for adjusting the tension of said spring.

8. A time stamp comprising a base, a table for supporting the papers to be stamped, a stamp head mounted on said base and movable back and forth and cooperating with said table for stamping the papers thereon and manually operable means for causing the actuation of said stamp head comprising a manually operable member carried by said base and adjacent said table and operable by pressure of the hand while holding the papers on said table in position for stamping, and transmission from said manually operable member to said switch comprising a releasable member for holding said switch in "on" position released when the stamp head is actuated.

9. A time stamp comprising a base, a support for the papers to be stamped, means for stamping the papers, and manually controllable power means for causing the actuation of said stamping means comprising a manually operable member carried by said base and adjacent said support and operable by

the pressure of the hand while holding the papers in position for stamping.

10. A time stamp comprising stamping means, a paper support for cooperation with said stamping means, said paper support
5 having a depressible portion, an electromagnet, transmission from said electromagnet to said stamping means for operating the latter, a switch for controlling the circuit of the
10 electromagnet, and transmission from said depressible portion to said switch for actuating it whereby depressing the depressible portion will move the switch to "on" position.

11. A time stamp comprising stamping
15 means, a paper support for cooperation with said stamping means, said paper support having a depressible portion, an electromagnet, transmission from said electromagnet to said stamping means for operating the latter,
20 a switch for controlling the circuit of the electromagnet, and transmission from said depressible portion to said switch for actuating it whereby depressing the depressible portion will move the switch to "on" position,
25 said transmission comprising a releasable member for holding said switch in "on" position, released when the stamping means is actuated.

12. A time stamp comprising stamping
30 means, a paper support for cooperation with said stamping means, said paper support having a pivoted depressible portion, an electromagnet, transmission from said electromagnet to said stamping means for operating the latter, a switch for controlling the
35 circuit of the electromagnet, transmission from said pivoted portion to said switch for actuating it whereby depressing the pivoted portion will move the switch to "on" position,
40 said switch mechanism comprising a plunger, said transmission comprising a swingable member engageable with said plunger and movable to release said plunger by its swinging movement, a spring for returning said
45 plunger when released to move the switch to "off" position, said switch mechanism comprising also a contact member controlled by said plunger, and means actuated by the armature of the electromagnet for actuat-
50 ing said swingable member to release said plunger whereby the electromagnet, when energized, will cause itself to become deenergized.

In witness whereof, I have hereunto sub-
55 scribed my name.

ERNEST S. OSTLER.

DISCLAIMER

1,777,889.—*Ernest S. Ostler*, Chicago, Ill. TIME STAMP. Patent dated October 7, 1930. Disclaimer filed December 24, 1934, by the assignee, *Stromberg Electric Company*.

Hereby enters this disclaimer with respect to certain claims of said patent, to-wit: To so much of claims 1 and 9 of said patent, and each of them as may cover a class of machines in which the type setting mechanism is not automatically controlled and in which the paper is not automatically released after the stamping impact; thereby limiting said claims 1 and 9 of said patent, and each of them, to a class of machines in which the type setting mechanism is automatically controlled and in which the paper is automatically released after the stamping impact.

[*Official Gazette January 15, 1935.*]