

M. SOBLIK.
PNEUMATIC TYPE WRITER.
APPLICATION FILED FEB. 18, 1913.

1,075,512.

Patented Oct. 14, 1913.

FIG. 1.

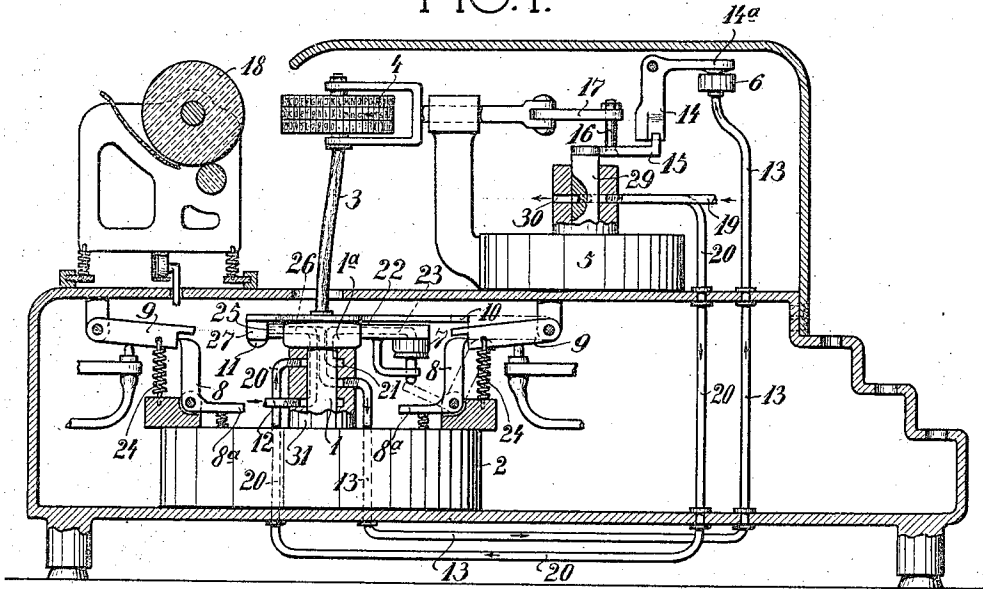


FIG. 2.

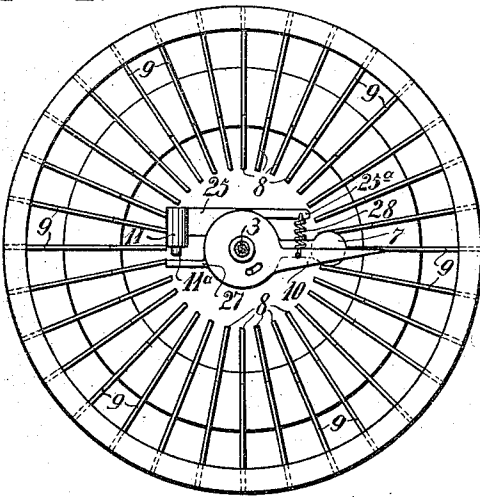


FIG. 3.

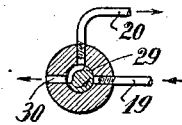
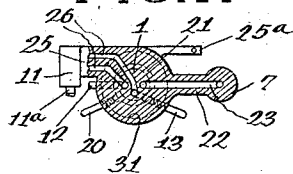


FIG. 4.



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PNEUMATIC TYPE-WRITER.

1,075,512.

Specification of Letters Patent.

Patented Oct. 14, 1913.

Application filed February 18, 1913. Serial No. 749,082.

To all whom it may concern:

Be it known that I, MAX SOBLIK, a sub-
ject of the German Emperor, and residing at
2 Gartenstrasse, Dresden-Klotzsche, King-
dom of Saxony, Germany, have invented
certain new and useful Improvements in
Pneumatic Type-Writers, of which the fol-
lowing is a specification.

The present invention relates to type-
writers in which the types are set and
printed by means of compressed air. Hith-
erto in typewriters of this kind known this
was done by more or less complicated means.

It is the object of the present invention to
simplify this kind of typewriter and its
operations.

Two compressed air or pneumatic motors
are provided both of which are fitted with
a controlling gear and of which the one mo-
tor will effect the setting of the types and
the other motor the printing of said set
types.

Figure 1 is a longitudinal section of the
typewriter showing the working parts. Fig.
2 is a top plan of the interior mechanism of
the machine. Fig. 3 is a sectional view of
the controlling device for the motor serving
to print the type wheel against the paper.
Fig. 4 is an enlarged cross section through
shaft 1, taken directly below arm 10.

The shaft 1 of the motor 2 is shown to be
coupled by means of a flexible shaft 3, to the
type wheel 4. As long as it has not been
arrested, the said type wheel will be continu-
ously revolved by the motor in the same
direction. The shaft 1 of the motor 2 simul-
taneously forms the controlling device for
the motor 5, which prints the types. On the
other hand the shaft of the pneumatic mo-
tor 5 serves as a controlling member for
starting the motor 2 after each adjustment.
The alternate arresting and releasing of the
two motors is effected by the exciting of two
diaphragms provided on casings 6 and 7.
The motor 2 is surrounded by abutments 9
having the form of levers and being ar-
ranged in a circle around said motor. These
abutments are each coupled to one of the
keys, not shown, in such a manner, that
when one of said keys is depressed, the re-
spective abutment will rise, so that it clears
the pawl 8, which is under action of a spring
and is supported by the same. The thus
raised abutment now lies in the path of an
arm 10 revolving on the shaft 1 and arrests

its further rotation and thereby also the ro-
tation of the motor 2 and of the type wheel
4, which will therefore revolve only so far
as the raised abutment will admit. Before
the rotation of the shaft is completed, the
valve 11 is opened, and the compressed air
supplied through pipe 12 will enter into
the pipe 13, which communicates with the
diaphragm casing 6. In consequence thereof
the diaphragm and with it the arm 14^a cou-
pled with a pawl 14 is lifted. The pawl 14
will be so turned, that it releases an arm 15
coupled to the shaft 29 of motor 5, so that
the motor 5 will make one revolution. In
consequence thereof the crank pin 16 fitted
on the arm 15 will be revolved, and by this
means and the coöperation of the rod 17
the type barrel 4 will be pressed against the
platen 18, so that the type directed or
pointed toward said platen is printed on the
paper thereon, whereupon the type barrel
will return into its initial position.

As hereinbefore said, the shaft of motor
5 is made to serve as a controlling member,
by means of which the air supply pipe 19
communicating with the shaft housing is in-
termittently made to communicate with the
pipe 20 and the latter with the exhaust 30.
The pipe 20 communicates with an annular
passage 21 in the housing 31, and through
this passage it communicates with a passage
23 in the shaft 1 of the motor 2 and in a
rigid arm 22 attached to the same. On the
arm 22 is fitted the diaphragm casing 7 in
which the air can enter. The pneumatic
pressure will by means of the diaphragm 7
press the lever 8^a downward, so that the
pawl 8 releases the abutment, which will
under action of spring 24 move down again.
In consequence thereof also the arm 10 is
again free and the motor 2 can again
revolve.

The arrangement for sending a current of
air through the shaft 1 into the pipe 13 is
not claimed under this application. It will
however be here explained for clearness
sake. As above explained, arm 10 is free to
turn on shaft 1, and is provided with a tap-
pet 27 that is adapted to operatively engage
the stem 11^a of valve 11. The latter controls
passage 26 and is carried by an arm 25 fast
on shaft 1, which also carries a relatively
fixed finger 25^a. Passage 26 communicates
with the air supply pipe 12, and also with
the pipe 13 leading to the diaphragm-casing

6. A spring 28 interposed between finger 25^a and arm 10 tends to hold the latter in such a position that tappet 27 is out of engagement with stem 11^a. During operation, shaft 1 turns in a direction opposite to that of a clock hand, so that the relatively fixed finger 25^a will take along arm 10 and tappet 27 by means of spring 28. When arm 10 engages a raised abutment 9, its rotation is instantly checked while the parts 25, 11, 11^a continue to rotate so that stem 11^a abuts against fixed tappet 27. In consequence thereof the said valve stem will be forced back and the air passages 12 and 13 which had been interrupted by the closed valve will be open, so that the air can suddenly enter into the casing 6 and release the motor 5, and print the type wheel, the position of which will depend on the abutment which has been raised.

I claim:

1. In a pneumatic typewriter, a platen, a first pneumatic motor, a type barrel adapted to be rotated thereby, a second pneumatic motor adapted to move said barrel toward the platen, and means for controlling said motors.

2. In a pneumatic typewriter, a platen, a first pneumatic motor, a type barrel adapted to be rotated thereby, a second pneumatic motor adapted to move said barrel toward the platen, a valve operatively connected to the first motor, a movable member controlled by said valve, and means actuated by said movable member for controlling the second motor.

3. In a pneumatic typewriter, a platen, a first pneumatic motor, a type barrel adapted to be rotated thereby, a second pneumatic motor, adapted to move said barrel toward the platen, a valve operatively connected to

the first motor, a first movable member controlled by said valve, means actuated by said first movable member for controlling the second motor, a second movable member, controlled by the second motor, and means actuated by said second movable member for controlling the first motor.

4. In a pneumatic typewriter, a platen, a first pneumatic motor, a type barrel adapted to be rotated thereby, a second pneumatic motor adapted to move said barrel toward the platen, a plurality of movable abutments surrounding the first motor, pawls adapted to engage the abutments and sustain them in their raised position, means controlled by the abutments for arresting the first motor, and pneumatic means controlled by the second motor for tilting the pawls and thereby releasing the abutments.

5. In a pneumatic typewriter, a platen, a first pneumatic motor, a type barrel adapted to be rotated thereby, a second pneumatic motor adapted to move said barrel toward the platen, a plurality of abutments surrounding the first motor, pawls engaging the abutments, means coacting with the abutments for arresting the first motor, a valve operatively connected to the first motor, a movable member controlled by said valve, means actuated by said movable member for controlling the second motor, and means controlled by the second motor for tilting the pawls and thereby releasing the abutments.

In testimony whereof I have hereunto set my signature in the presence of two witnesses.

MAX SOBLIK.

Witnesses:

PAUL ARRAS,
CLARE SIMON.