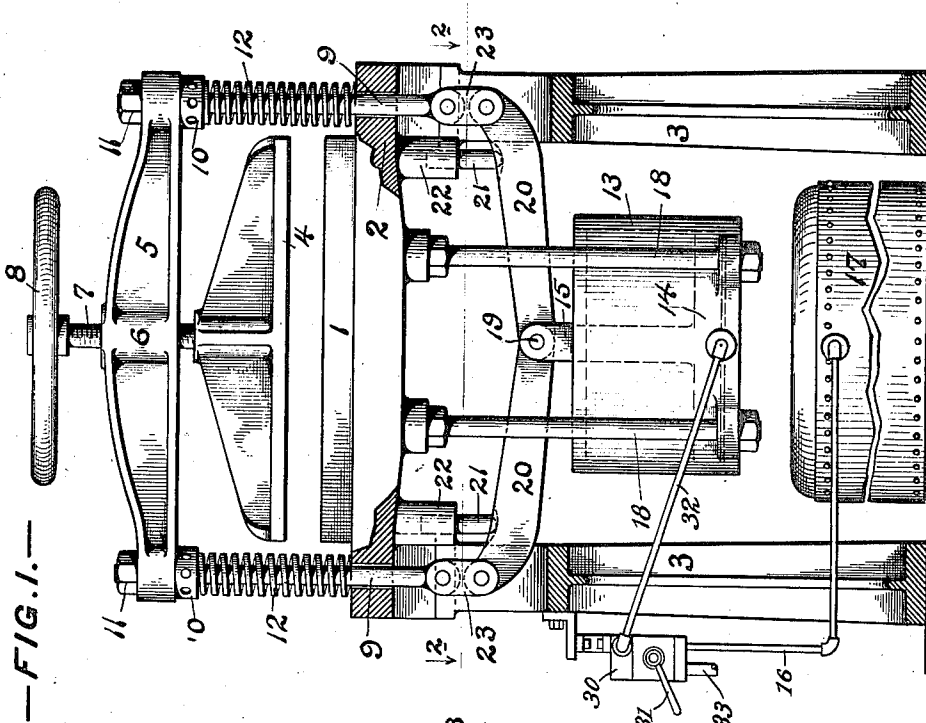


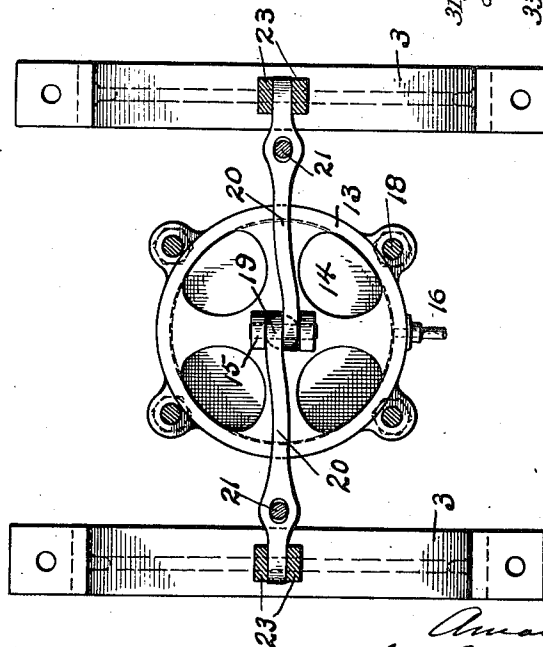
A. H. CRUSE.
MATRIX DRYING PRESS.
APPLICATION FILED MAY 18, 1909.

1,008,528.

Patented Nov. 14, 1911.



—FIG. 2.—



WITNESSES

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AMANDUS H. CRUSE, OF BROOKLYN, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS,
TO R. HOE AND CO., OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

MATRIX-DRYING PRESS.

1,008,528.

Specification of Letters Patent.

Patented Nov. 14, 1911.

Application filed May 18, 1909. Serial No. 496,822.

To all whom it may concern:

Be it known that I, AMANDUS H. CRUSE, a citizen of the United States, residing at Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Matrix-Drying Presses, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to certain improvements in matrix drying presses.

Matrix drying presses, as usually constructed, comprise a heated drying platen on which the chase containing the type and the superposed matrix are laid. Over the matrix is laid a covering, which usually consists of a blanket, and pressure is applied to the covering by a plate so as to insure close and intimate contact of the matrix with the type. This plate, in the constructions now ordinarily employed, is usually screw operated. In practice, although the plate is forced down by its screw to the fullest extent possible when the matrix and blanket are first placed in position on the drying platen, after the matrix has stood for a short period of time what may be termed a "settling" of the covering takes place, which makes it necessary to again adjust the pressure plate, and this operation frequently has to be repeated a number of times during the drying of a matrix. It is important to maintain a steady and even pressure on the matrix, for the reason that if such pressure is maintained, the time required for drying the matrix is materially reduced.

This invention has for its object to produce an improved matrix drying press which will be provided with means for automatically maintaining a substantially uniform pressure on the matrix and which shall be simple and compact in its construction so as to require but little space in the stereotype or composing room.

A further object of the invention is to produce an improved matrix drying press which shall be provided with means whereby a rough adjustment of the presser plate may be obtained by hand, and also with means

by which a substantially uniform pressure may be maintained automatically.

With this and other objects in view, the invention consists in certain constructions and in certain parts, improvements and combinations as will be hereinafter fully described and then specifically pointed out.

In the accompanying drawings—Figure 1 is a front elevation, partly in section, of an improved matrix drying press embodying the invention. Fig. 2 is a sectional plan view on the line 2—2 of Fig. 1.

Referring to the drawings which illustrate one embodiment of the invention, 1 indicates a drying table or platen which may be of any usual construction and may be heated in any suitable way, as for instance, by steam or electricity. This platen, in the construction illustrated, rests on a bed 2, which in turn is supported on suitable side frames 3.

Constructions embodying the invention will include a presser plate which may be of any approved type. In the construction illustrated, this plate is marked 4. This plate may be supported and operated in any approved way. In the particular construction illustrated there is provided a carrier 5 having threaded and centrally located bosses 6 through which passes a threaded stem 7, this stem being provided with a hand wheel 8. This carrier is supported on rods 9 which, as illustrated, pass through the plate 2, these rods being adjustably secured to the carrier 5 by means of check nuts 10 and nuts 11, and being surrounded by springs 12.

Constructions embodying the invention will include means for maintaining a uniform pressure on the plate as the matrix covering under pressure settles or reduces in thickness. While the construction by which this uniform pressure may be varied, in the particular construction illustrated, there is provided a cylinder 13 in which works a piston 14, this piston being provided with a stem 15.

Means such as suitable piping and controlling devices will be provided for leading the fluid under pressure from the tank 17 to the cylinder 13. As shown, there is provided a pipe, as 16, leading to a valve casing

30 secured in any suitable way to the frame. This casing 30 contains an ordinary two-way valve the handle of which is indicated at 31, and from this casing a pipe 32 leads to the cylinder. An exhaust pipe 33 also leads from the casing. When the valve is thrown in one direction air will be admitted to the cylinder 13, and when it is thrown in the opposite direction the air in the cylinder will escape from the pipe 33.

The fluid under pressure, such for instance as air, may be derived from any suitable source. In the drawings a tank 17 is shown as located beneath the piston, although this tank may be located in any desired place. This tank, when employed, will, in practice, usually be connected with a suitable mechanically operated air compressor.

The cylinder 13, when the means for maintaining uniform pressure on the plate includes such a cylinder, will be located in line with the platen. It will be understood that the space in stereotyping or composing rooms where matrix drying presses are employed is usually limited so that it is very desirable that the mechanism by which the press is operated shall be compact as possible thus reducing the space necessary for installation. In the particular construction shown, this cylinder 13 is located beneath the platen and supported from the bed plate by rods, as 18. Suitable operating connections are provided between the piston, when it is employed, and the carrier. In the construction illustrated, there is pivoted to the piston at 19 a pair of operating levers, as 20, these levers being fulcrumed on studs 21 inserted in sockets 22 formed on the bed plate 2. The operating ends of these levers are, in the construction illustrated, connected by links 23 to the ends of the rods 9, before referred to as adjustably connected to the carrier bar 5.

After the chase containing the type, the matrix on the type and the usual covering are placed on the drying table, the plate 4 may by means of the hand wheel 8 be forced down against the covering, thus obtaining a rough or preliminary adjustment, after which fluid under pressure may be admitted to the cylinder. The pressure in the tank will be sufficiently high so that as the covering settles the pressure will be uniformly maintained through the movement of the piston and the operating connections referred to. The means for obtaining a rough adjustment are valuable, not only for this purpose, but they also insure the operation of the press should the tank or air compressor for any reason be out of order.

Changes and variations may be made in the construction by which this invention is carried into effect. The invention is not, therefore, to be limited to the specific con-

struction hereinbefore described and illustrated in the accompanying drawings.

What is claimed is:

1. In a matrix drying press, the combination with a drying platen, of a presser plate, means for roughly adjusting the plate with respect to the matrix and its covering on the platen, and means for automatically maintaining a uniform pressure on the plate as the covering settles.

2. In a matrix drying press, the combination with a drying platen, of a presser plate, means for roughly adjusting the plate with respect to the matrix and its covering on the platen, an automatically operating pressure producing device in line with the platen, and operating connections between the plate and the pressure producing device.

3. In a matrix drying press, the combination with a drying platen, of a presser plate, means for roughly adjusting the plate with respect to the matrix and its covering on the platen, an automatically operating pressure producing device beneath the platen, and operating connections between the plate and the pressure producing device.

4. In a matrix drying press, the combination with a drying platen, of a cylinder located in line with the platen, a piston working in the cylinder, means for admitting fluid under pressure to the cylinder, a presser plate, and operating connections between the piston and the presser plate.

5. In a matrix drying press, the combination with a drying platen, of a cylinder in line with the platen, a piston working therein, means for admitting fluid under pressure to the cylinder, operating connection between the piston and the presser plate whereby uniform pressure may be maintained on a matrix beneath the presser plate, and means for effecting a rough adjustment of the presser plate.

6. In a matrix drying press, the combination with a drying platen, of a carrier, a presser plate mounted thereon, a cylinder located beneath the platen, a piston in the cylinder, means for admitting fluid under pressure to the cylinder, and connections including suitable operating levers between the carrier and the piston.

7. In a matrix drying press, the combination with a drying platen, of a carrier, a presser plate, a threaded stem connecting the plate to the carrier, a cylinder beneath the plate, means for admitting fluid under pressure to the cylinder, a piston working in the cylinder, and connections including suitable operating levers between the piston and the carrier.

8. In a matrix drying press, the combination with a drying platen, of a carrier, a presser plate, a threaded stem connecting the plate with the carrier, a piston located

beneath the platen, rods adjustably connected to the carrier, springs surrounding the rods, a cylinder beneath the platen, means for admitting fluid under pressure
5 to the cylinder, a piston in the cylinder, and connections including operating levers between the piston and the rods.

In testimony whereof, I have hereunto set my hand, in the presence of two subscribing witnesses.

AMANDUS H. CRUSE.

Witnesses:

F. W. H. CRANE,

GEO. V. WILLIAMSON.