O. V. SIGURDSSON.

TYPE CASTING AND COMPOSING MACHINE.

APPLICATION FILED NOV. 8, 1910.

1,043,261. **Patented Nov. 5, 1912.**

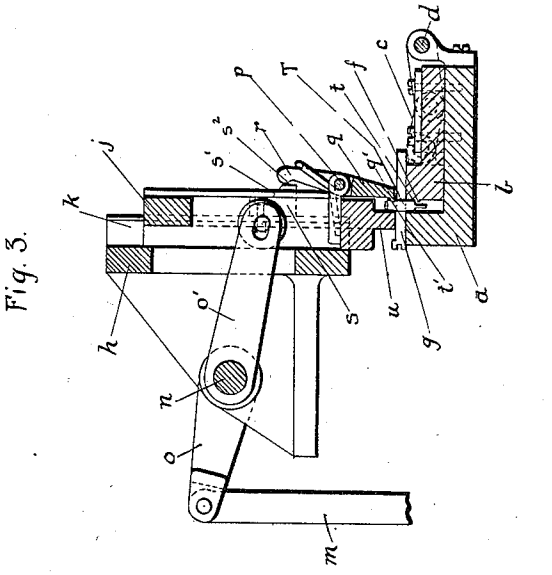

Fig. 3.

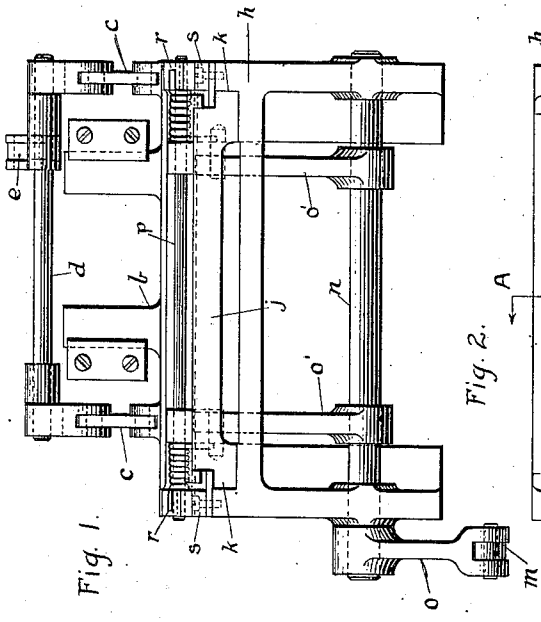

Fig. 1.

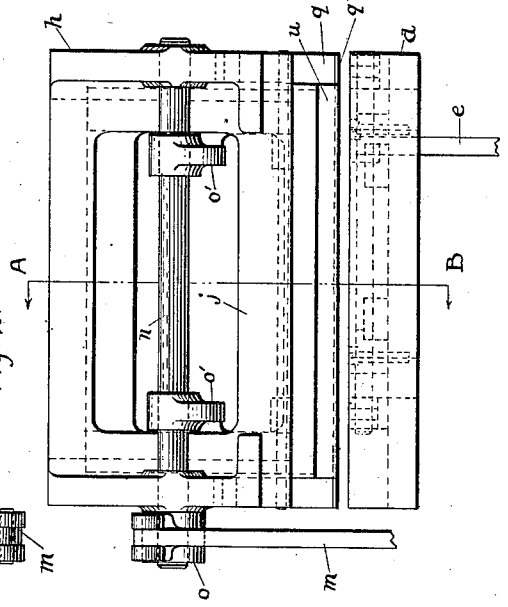

Fig. 2.

WITNESSES

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ODDUR V. SIGURDSSON, OF NEW YORK, N. Y., ASSIGNOR TO ODDUR MANUFACTURING COMPANY, OF NEW YORK, N. Y., A CORPORATION OF WEST VIRGINIA.

TYPE CASTING AND COMPOSING MACHINE.

1,043,261. Specification of Letters Patent. Patented Nov. 5, 1912.

Application filed November 8, 1910. Serial No. 591,343.

To all whom it may concern:

Be it known that I, ODDUR V. SIGURDSSON, a subject of the King of Denmark, residing in the borough of Brooklyn, city and State of New York, have invented a certain new and useful Improvement in Type Casting and Composing Machines, of which the following is a specification.

This invention relates to a class of machines in which individual type are successively cast and assembled, and in which the assembled line is solidified by a casting operation.

The invention consists in improved means for alining the separately cast type in the solidifying mold. In the form in which it is shown the separately cast type are not type high but the integral slug composed of a plurality of assembled type is, by the casting operation, made type high. This style of type is disclosed in my Letters Patent No. 942,846, dated December 7, 1909. In connection with such short type, and with other forms, it has been proposed, as shown for instance, in my Letters Patent mentioned, to aline the bodies of the assembled type by lateral pressure and also to aline the character surfaces of the assembled type by a flat-faced pressure bar that is pressed against the character faces of the type to bring all such surfaces into the same plane. While the type are so held by endwise and lateral pressure, the casting operation to convert the assembled line of individual type into a unitary line slug is performed. This plan of exerting pressure upon the character surfaces is open to the objection that there is liability of injury or upsetting the faces of the type, particularly those of small area.

In apparatus constructed in accordance with this invention, true alinement or leveling of the type faces is obtained by pressing a part of the type body below the face against a gage rib associated with the mold. The part or face of the type body employed for this purpose may be at the foot or bottom of the type and may, and indeed should be, a face parallel with the surface of the type character. The means by which such vertical, downward, or endwise pressure is imparted to the respective types of the assembled line is applied to the sides of the bodies of the types and may be, and preferably is, the same means by which lateral pressure upon the respective type is exerted.

The accompanying drawing shows so much of a machine as is necessary to illustrate the invention.

Figure 1 is a plan view: Fig. 2, a rear view: and Fig. 3, a vertical section on the line A, B, of Fig. 2.

The construction indicated closely resembles that disclosed in my above mentioned Letters Patent and no very detailed description thereof seems to be necessary except with respect to those parts which show the embodiment of the present invention.

a is the fixed part of the line solidifying mold: *b*, the movable or sliding member thereof operated by the toggle links *c*, *c*, through the medium of the shaft *d* and its operating rod *e*. On the inner face of the sliding member of the mold is formed a rib *f* having a flat upper face parallel with the bottom face of the mold. *g* indicates the space pieces one only of which appears in Fig. 3. The type T, one only being shown in Fig. 3, is less than type high and is formed with a short extension at the bottom of less thickness than the type body. There is thereby formed on each type a shoulder or bottom face *t* that should be parallel with the face of the type character.

In the side of each type, which will be called the front side for convenience, is a recess *t'* located at a suitable point between the type character and the shoulder *t*. When the individual successively cast type are assembled in a line and disposed in the solidifying mold as indicated in Fig. 3, true alinement both with respect to the vertical faces of the type bodies and the surfaces of the type character should be effected before the casting operation by which they are united into an integral or unitary line slug. In a part *h* of the frame is mounted a slide *j* traveling in ways *k* and moved for timely operation through the medium of an operating rod or link *m*, rock shaft *n* and arms *o*, *o'*. On the front or outer face of the slide is a transversely disposed bearing shaft *p* upon which is hinged or pivoted a plate *q* having at its edge on the inner side a bead or rib *q'* adapted to engage the recesses *t'* in the respective type. At each end of the plate *q*, there is an extension arm *r* adapted to coöperate with a cam *s* fixed on the frame. Springs applied to the respective ends of the shaft *p* being coiled thereon and having one end engaging the extension arm *r* and

the other a face of the slide j tend to throw the lower edge of the plate outwardly or away from the sides of the type. When the type are assembled in the mold and just prior to the slug casting operation, the slide j descends. The inclined faces s' of the cams s first move the extension arms r outwardly causing the rib q' to engage the recesses in the sides of the type bodies and then the ends of the extension arms travel against the faces s^2 of the cams which are parallel with the plane in which the slide moves and the rib q' serves to exert endwise pressure upon the several types to firmly seat all the shoulders t thereof upon the gage or rib f in the mold. The lateral pressure of the plate q against the bodies of the type assures their alinement in a plane perpendicular to that of the type faces while the endwise pressure against the shoulder or rib f insures the alinement of the faces of the type characters. The bottom u of the slide j should come into contact with the space pieces g. The outer face of part u is in the same plane as the rear interior face of the mold and these two last named faces or surfaces form a back against which the rear faces of the type bodies are pressed or alined by the lateral pressure of plate q.

I claim:

1. Means for alining the character surfaces of individual type assembled in a solidifying mold which means comprise the combination of a gage against which the types are pressed endwise to aline the character surfaces thereof and means movable transversely and endwise of the type acting upon the sides of the bodies of the type to press them endwise.

2. Means for alining the character surfaces of individual type assembled in a solidifying mold and for alining the type bodies in a plane perpendicular to the surfaces of the characters which means comprise the combination of a gage against which the types are pressed endwise to aline the character surfaces thereof and means movable transversely and endwise of the type acting upon the sides of the bodies of the type to press them endwise and laterally.

3. The combination of a solidifying mold adapted to receive a plurality of assembled individual type, a gage within the mold above the bottom thereof and means engaging the sides of the type to press them endwise against the gage.

4. The combination of a solidifying mold adapted to receive a plurality of assembled individual type, a gage within the mold above the bottom thereof and means engaging the sides of the type to press them endwise against the gage and also laterally to aline the bodies of the type in a plane perpendicular to the character faces of the type.

5. The combination with a type solidifying mold adapted to receive groups of types separated by spaces of means engaging the sides of the types and acting to move them endwise to aline their type surfaces.

In testimony whereof, I have hereunto subscribed my name.

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