

No. 793,809.

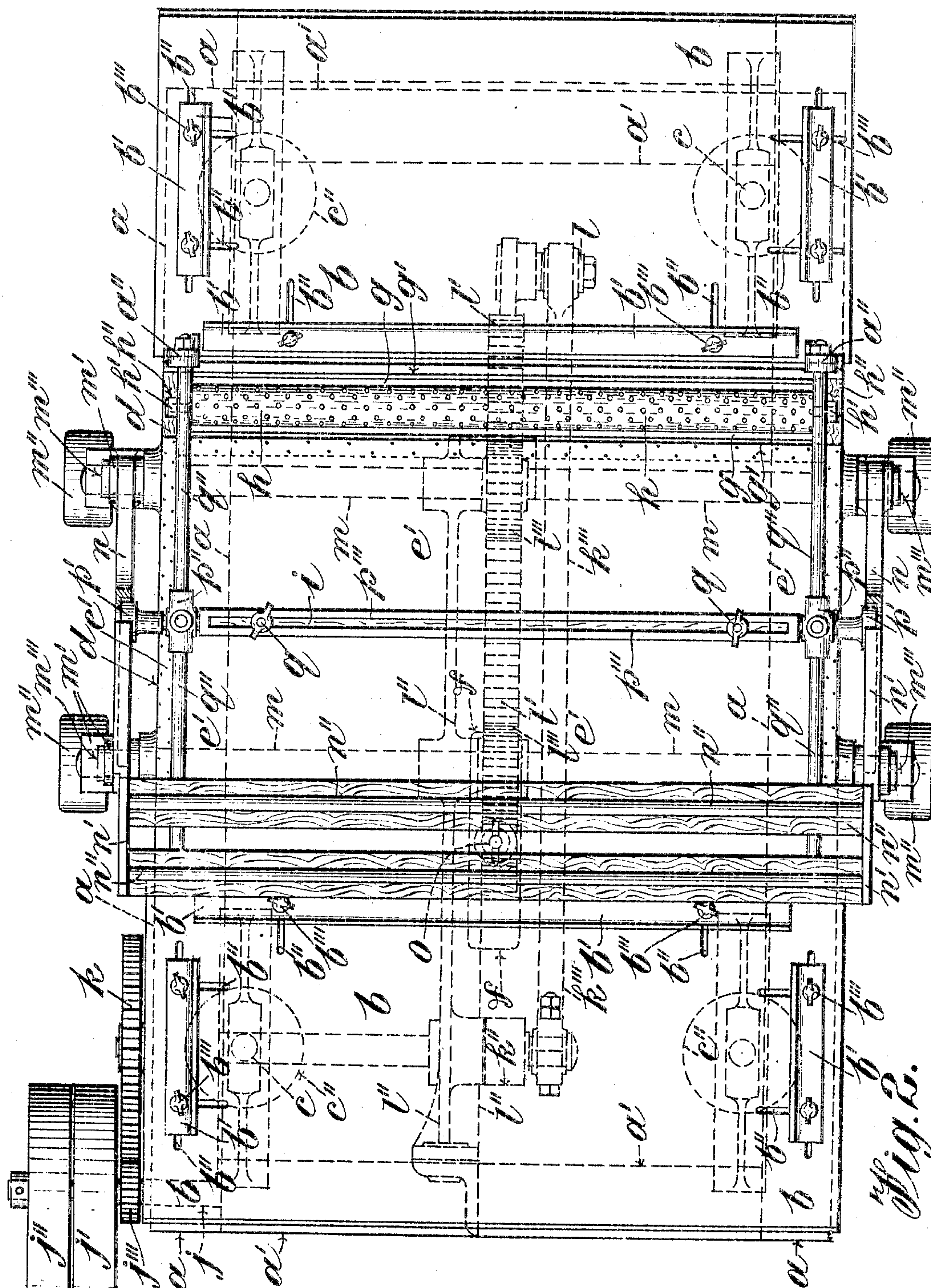
PATENTED JULY 4, 1905.

R. TONGE & J. BUTTERWORTH.

PRINTING PRESS.

APPLICATION FILED MAY 16, 1904.

3 SHEETS—SHEET 2.



Witnesses.
William A. Colebourn
Mabel Lee.

Inventors.
Richard Tonge
Joseph Butterworth
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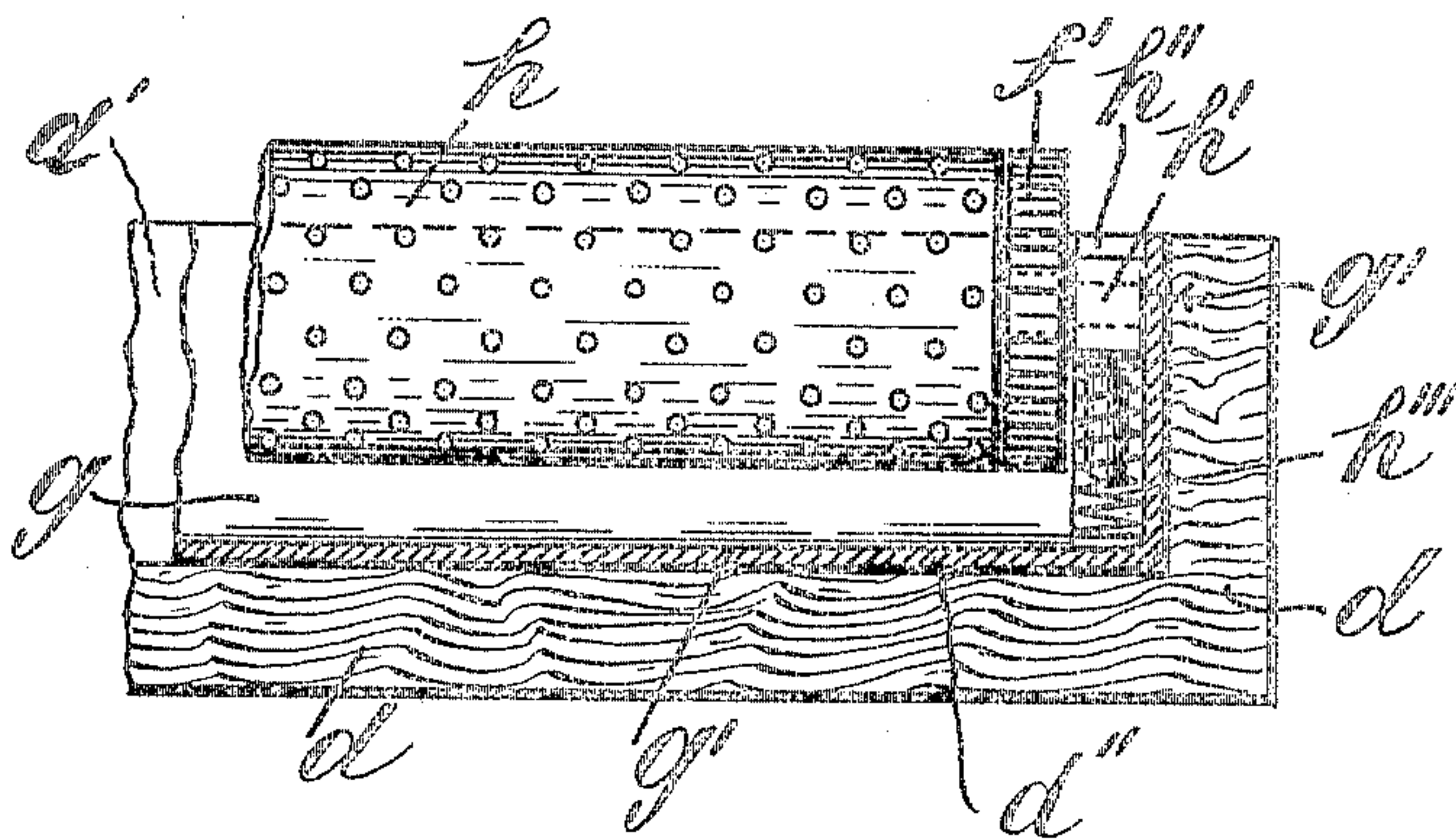
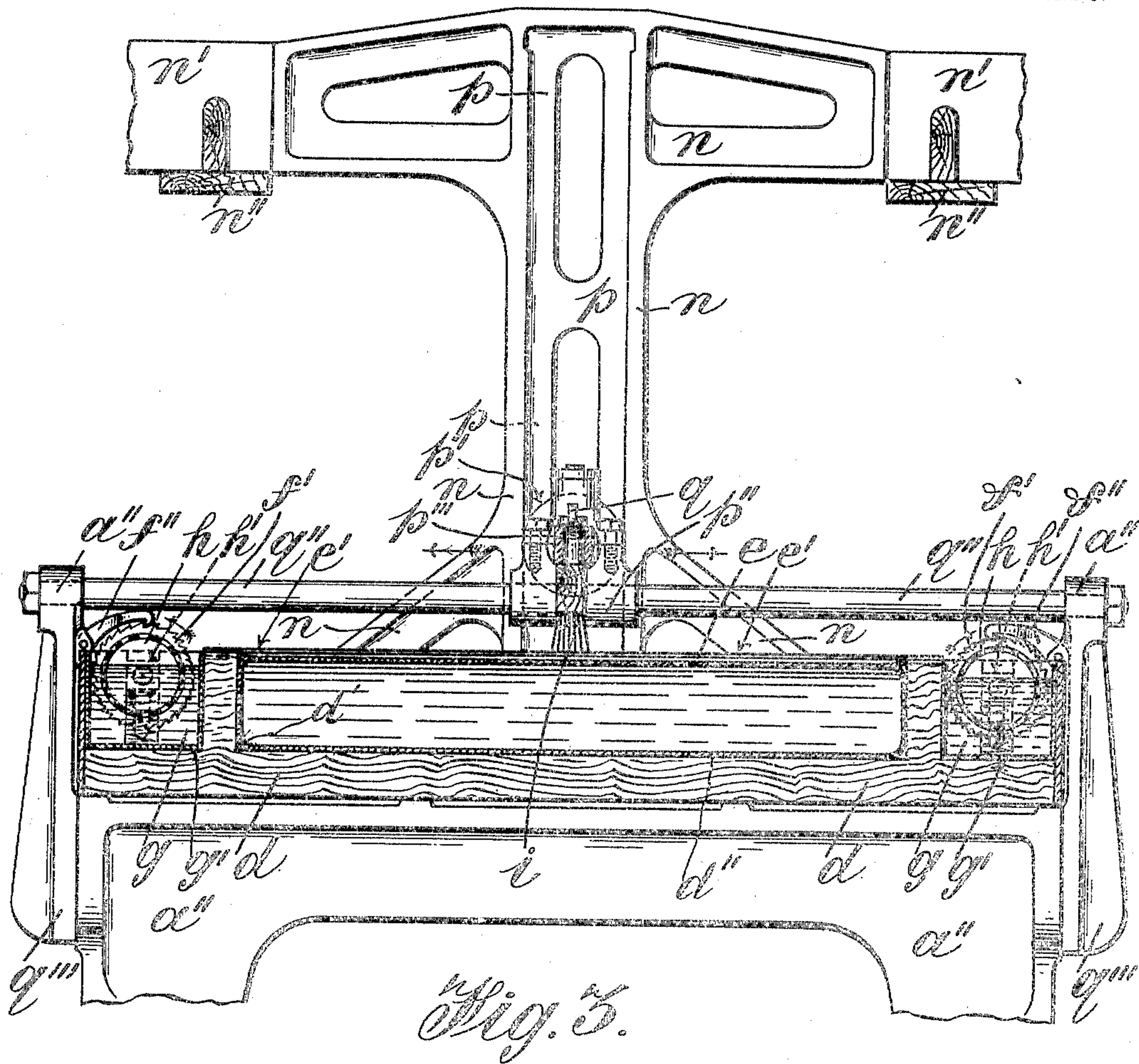
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UNITED STATES PATENT OFFICE.

RICHARD TONGE AND JOSEPH BUTTERWORTH, OF MANCHESTER,
ENGLAND.

PRINTING-PRESS.

SPECIFICATION forming part of Letters Patent No. 793,809, dated July 4, 1905.

Application filed May 16, 1904. Serial No. 208,316.

To all whom it may concern:

Be it known that we, RICHARD TONGE and JOSEPH BUTTERWORTH, of the firm of Lancaster & Tonge, Limited, subjects of the King of Great Britain and Ireland, and residents of Manchester, England, have invented certain new and useful Improvements in Printing-Presses, of which the following is a specification.

This invention relates to improvements in machines for stamping or printing trade-marks, numerals, or other devices on cloth or other materials; but it is more especially applicable to cloth piece goods, the object of the improvements being to provide mechanism for operating upon one or more pieces of cloth at the same time and to generally simplify this class of machine while increasing its efficiency and productivity.

Our invention will be fully described with reference to the accompanying drawings, in which—

Figure 1 is a side elevation, half in section, of a machine constructed in accordance with our invention; Fig. 2, plan of same, partly in section; Fig. 3, enlarged transverse section of the inking or color pad and the ink or color troughs; and Fig. 4, partial longitudinal section of one of the ink or color rollers, also showing the character of the bearings.

In carrying out our invention, *a* represents the side frames of the machine, connected together by cross-rails *a'*, while *a''* represents subsidiary frames mounted on the top of frames *a*, though they may be formed in one therewith.

b represents tables upon which the cloth or other material can be placed while undergoing the process of printing or stamping, said table being provided with adjustable brackets *b'*, capable of being moved along slots *b''* and of being held in any required position by bolts and wing-nuts *b'''*. The goods to be printed or stamped are placed against the adjustable brackets. The cloth-tables can be adjusted vertically by means of screws *c* and nuts *c'*, the latter forming part of hand-wheels *c''*, both screws and wheels being supported by brackets *c'''*. Located between the cloth-

tables is an inking-pad consisting of a base *d*, 50 of wood or other similar material, supported on the frames *a''* and having a central compartment *d'*, in which is placed an india-rubber or other flexible bag *d''*, capable of holding water or other liquid or a gas and having 55 a flange at its top side which can be secured to the base *d* in any suitable manner. On the upper side of the bag is placed a mackintosh or waterproof cover *e* and on the top of this a sheet of felt or printers' blanket *e'*, the latter 60 being adapted to receive ink or color on its upper surface, while the mackintosh prevents the ink coming into contact with the india-rubber bag. The bag therefore represents a flexible medium with which the trade-mark 65 or other device stamps *f* of the usual constructive character can come into contact, pick up the ink or color, and transfer it to the cloth or other material to be stamped. The base *d* has also formed in its side compartments 70 *g*, lined with a suitable material *g'* and containing the ink or color. Mounted in each compartment is a perforated roller *h*, mounted in spring-controlled bearings, consisting of pins or slides *h'*, riding in guideways *h''* 75 and controlled by springs *h'''*, the arrangement permitting of the rollers being pushed downward into the troughs or compartments *g* by the inking or color brush *i* as it reaches the extent of its horizontal stroke in either 80 direction, the brush also slightly rotating the rollers at the same time. The rollers may be prevented turning back by fixing ratchet-wheels *f'* at one end of their ends and employing a pivoted pawl *f''* or a like device to 85 engage therewith.

The means for transferring the ink or color from the compartments *g*, and thence to the stamps or printing devices, and finally to the cloth or other material consists of a driving- 90 shaft *j*, carrying a fixed pulley *j'* and loose pulley *j''* and a fixed pinion *j'''*, gearing with a wheel *k*, mounted on shaft *k'* and carried in bearings in the framework *a*, the said shaft having at the opposite end a crank *k''*, to the 95 pin of which is coupled a connecting-rod *k'''*, the opposite end of which is shackled to a pin *l*, fixed to or forming part of a rack *l'*, slidable

in bearings l'' , fixed to the framework a of the machine. The rack l' is adapted to engage with pinions l''' , fixed on the shafts m , carried in the framework a , the said shafts having
 5 fixed at either end levers m' , the lower ends of which are provided with fixed or adjustable weights m'' , while their upper ends are coupled to pins m''' , carried by light frames n , preferably of aluminium, the upper ends of
 10 said frames having extending arms n' , to which are connected the stay or cross rails n'' , to which the trade-mark or other device stamps are adjustably fastened by wing-nuts o and screwed studs o' . The inner sides of
 15 the frames n are provided with vertical guideways p , adapted to receive bowls p' , mounted on trunnions p'' of a transverse rail p''' , to which the ink or color brush i is secured by bolts and wing-nuts q . The transverse rail
 20 p''' carries bosses q' , adapted to slide horizontally on rods q'' , carried by brackets q''' , attached to or forming part of the frames a'' . It will therefore be seen that as motion is given to the driving-shaft j and shaft k' the
 25 rack l' is moved backward and forward, so as to turn the levers m' about their shafts m in the direction of the arrows, the levers m' forming a parallel motion designed to cause the frames n to rise and fall vertically and
 30 simultaneously move alternately backward and forward, so as to bring one trade-mark stamp into contact with the pad carrying the ink, while the other stamp comes in contact with the cloth or other material to be stamped
 35 or printed. At the same time the movement of the frames n pushes the brush i backward and forward. As already stated, the brush comes into contact with the ink or color rollers at each end of the stroke, picks up the
 40 coloring material, and transfers it to the felt or blanket e' , at the same time distributing the color over its surface. The inking-pad is perfectly flexible and enables a good distribution of ink on the trade-mark stamps to
 45 be obtained, and consequently a good impression to be given on the cloth.

We would have it understood that the machine may be made with one cloth-supporting table, one ink-reservoir, and one series of
 50 arms to support the trade-mark stamps only; but we prefer the arrangement shown in the drawings. Further, instead of perforated ink-rollers we may employ imperforate rollers, or either of such class of roller may be
 55 covered on its exterior with felt to assist in retaining the color as the rollers are turned round.

What we claim as our invention, and desire to secure by Letters Patent, is—

60 1. A machine for stamping or printing trade-marks or other devices upon cloth or other materials consisting of a flexible pad, ink-troughs located on either side of said pad, cloth-supporting tables adjacent to the ink-
 65 troughs, frames capable of rising and falling

and moving backward and forward horizontally, means attached to said frames for supporting the stamping or printing device, guide-bars arranged above the inking-pad, a horizontally-slidable brush carried by said guide- 70 bars, a system of parallel motion-levers connected to the frames carrying the stamping devices and operating the latter and the slidable brush and also coupled to rotatable shafts and means for giving said shafts a rotary re- 75 ciprocating motion substantially as and for the purposes described.

2. In a machine of the character and for the purposes described an ink or color brush, trade-mark stamps, the means for moving the 80 ink or color brush horizontally and for bringing the trade-mark stamps alternately into contact with the pad and the material to be stamped consisting of side frames capable of rising and falling and of moving backward 85 and forward horizontally, rails carried by said frames and supporting the trade-mark stamps, a system of parallel motion-levers connected to the frames carrying the stamping devices and to rotatable shafts, means for giving said 90 shafts a rotary reciprocating motion, guideways on the inner faces of the rising and falling frames, bowls carried on the ends of the reciprocable ink-brush and engaging with the guideways and tables carrying the material 95 to be stamped substantially as described.

3. In a printing-press, tables, an inking-pad, a printing-frame supported over the pad, means for imparting an oscillatory motion to the frame, and means operated by the frame 100 for distributing ink over the pad.

4. In a printing-press, an inking-pad, tables, adjustable brackets on the tables, a printing-frame supported over the pad, and means for imparting an oscillatory movement to the 105 frame.

5. In a printing-press, an inking-pad, adjustable tables, a printing-frame supported over the pad, and means for imparting an oscillatory movement to the frame. 110

6. In a printing-press, an inking-pad, vertically-adjustable tables, a printing-frame supported over the pad, and means for imparting an oscillatory movement to the frame.

7. In a printing-press, an inking-pad, tables having slots, adjustable brackets on the 115 tables, means carried by the brackets and riding in the slots for securing the brackets in their adjusted position, a printing-frame supported over the pad, and means for imparting 120 an oscillatory movement to the frame.

8. In a printing-press, a main frame, an inking-pad supported by the main frame, tables on the main frame a printing-frame, levers for supporting the printing-frame over 125 the pad and means for moving the levers whereby an oscillatory movement is imparted to the printing-frame.

9. In a printing-press, a main frame, an inking-pad supported thereby, tables on the 130

main frame, a printing-frame, weighted levers for supporting the printing-frame over the pad, and means for moving the levers.

10. In a printing-press, a main frame, an inking-pad thereon, tables on the main frame, a printing-frame over the pad, levers pivoted to the printing-frame, and means for moving the levers.

11. In a printing-press, a main frame, an inking-pad thereon, tables on the main frame, a printing-frame over the pad, levers pivoted to the frame, adjustable weights on the levers, and means for moving the levers.

12. In a printing-press, a main frame, an inking-pad thereon, tables on the main frame, a printing-frame, over the pad, shafts journaled in the main frame, levers secured to the shafts and supporting the printing-frame, and means for imparting motion to the shafts.

13. In a printing-press, a main frame, an inking-pad thereon, tables on the main frame, a printing-frame over the pad, shafts journaled in the main frame, levers secured midway their length to the shafts, an end of each of the levers being secured to the printing-frame, and means for imparting motion to the shafts.

14. In a printing-press, a main frame, an inking-pad thereon, tables on the main frame, a printing-frame over the pad, shafts journaled in the main frame, levers secured midway their length to the shafts, an end of each of the levers being secured to the printing-frame, weights on the free portions of the levers, and means for imparting motion to the shafts.

15. In a printing-press, a main frame, an

inking-pad thereon, tables on the main frame, a printing-frame over the pad, shafts journaled in the main frame, levers secured to the shafts and supporting the printing-frame, pinions on the shafts, a rack supported by the main frame, said rack meshing with the pinions and means for reciprocating the rack.

16. In a printing-press, an inking-pad, tables, a printing-frame supported over the pads, guideways in the printing-frame, a brush for the pad, having ends riding in the guideways, and means for imparting an oscillatory motion to the printing-frame.

17. In a printing-press, an inking-pad, a printing-frame supported over the pads, guide-rods mounted on each side of the inking-pad, guideways formed in the printing-frame, an inking-brush for the pad loosely mounted on the guide-rods, bosses in the guideways of the frame and means for imparting an oscillatory motion to the printing-frame.

18. In a printing-press, a main frame, an inking-pad thereon, tables on the main frame, a printing-frame, over the pads, shafts journaled in the main frame, levers secured to the shafts, and supporting the printing-frame, pinions on the shafts, guides on the main frame, a rack riding in the guides and meshing with the pinions and means for reciprocating the rack.

In testimony whereof we have hereunto set our hands in the presence of two witnesses.

RICHARD TONGE.

JOSEPH BUTTERWORTH.

Witnesses:

WILLIAM H. TAYLOR,

JAS. STEWART BROADFOOT.