No. 885,287. PATENTED APR. 21, 1908.

C. VON PHILP.

INKING DEVICE.

APPLICATION FILED JULY 22, 1907.

FIG. 2

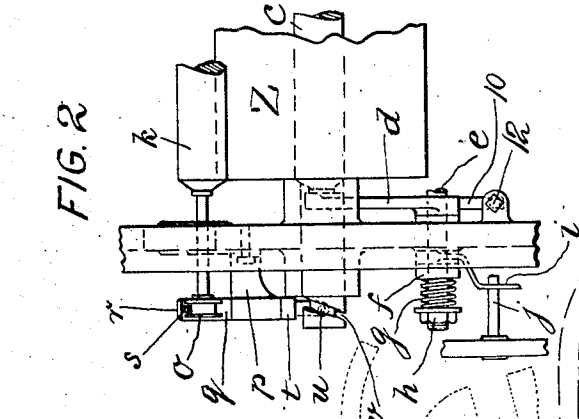
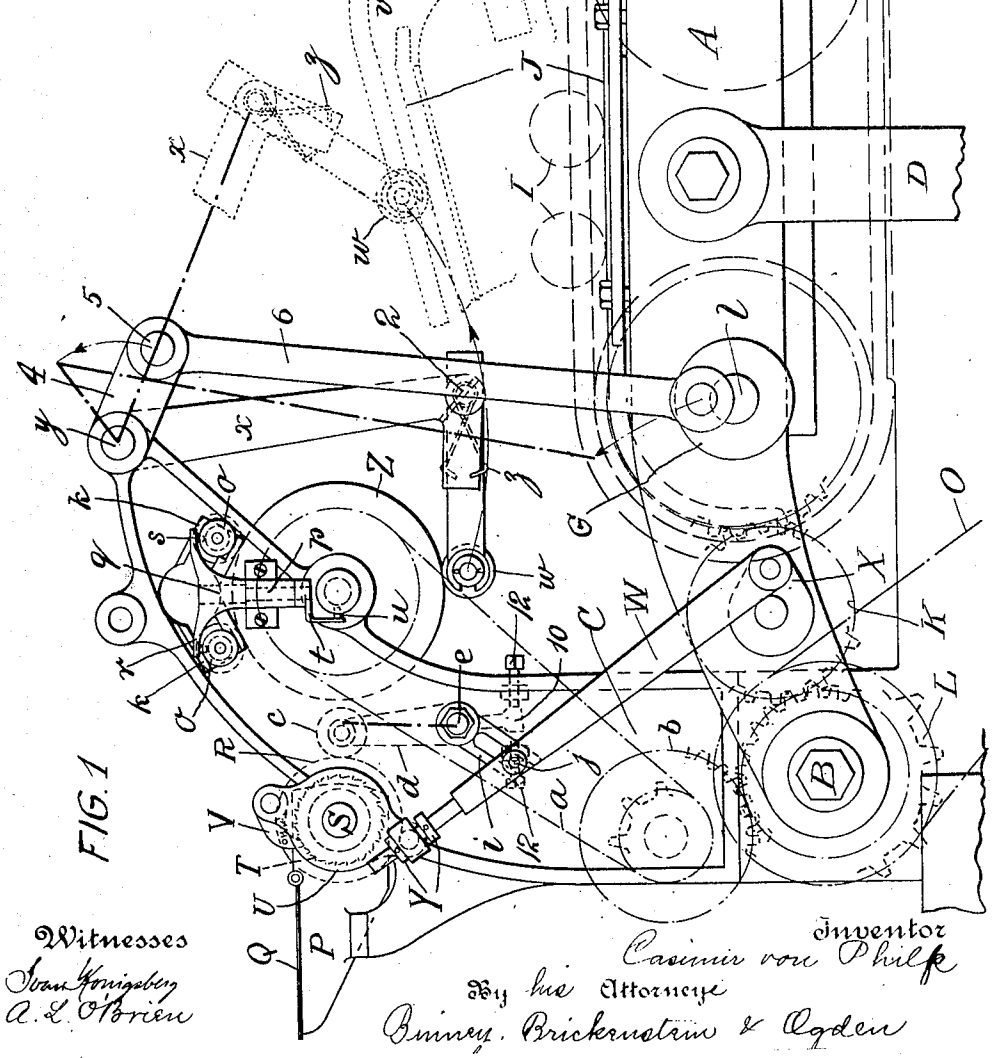


FIG. 1



Witnesses

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INKING DEVICE.

No. 885,287. Specification of Letters Patent. Patented April 21, 1908.

Application filed July 22, 1907. Serial No. 384,880.

To all whom it ma, concern:

Be it known that I, CASIMIR VON PHILP, a citizen of the United States, and a resident of borough of Brooklyn, county of Kings, city and State of New York, have invented certain new and useful Improvements in Inking Devices, of which the following is a specification, accompanied by drawings.

This invention relates to inking devices for special printing presses printing on a continuous strip or web of material, and the objects of the invention are to improve upon the construction of such devices and enable a better and more even distribution of ink to be obtained.

Further objects of the invention will hereinafter appear and to these ends the invention consists of an inking device for carrying out the above objects embodying the features of construction, combinations of elements, and arrangement of parts having the general mode of operation substantially as hereinafter fully described and claimed in this specification and shown in the accompanying drawings, in which,—

Figure 1 is a side elevation of an inking device embodying the invention partly broken away, and Fig. 2 is a detail end view of portions of the distribution roller and vibration rolls.

Referring to the drawings, A represents a form carrier fulcrumed at B on the side frames or carrying brackets C, and adapted to be vibrated or moved up and down by means of the connecting rod D. The type in their chase are adapted to be connected to the lower face of the form carrier at E. Sprocket wheels F and G are carried by the form carrier, with which a chain H engages provided with the composition inking rollers I, adapted to travel around the form carrier and carry the ink from the inking plate J to the type. In this instance, the sprocket G is provided with additional teeth meshing with the pinion K, which in turn engages the gear L carried on the shaft or fulcrum B, and adapted to be driven by means of the chain or belt O, so that rotary motion is imparted to the sprocket wheels F and G and the chain H. The motion of the parts is so timed that the inking rollers I are passing over the type when the form carrier is in raised position as indicated in dotted lines, partly broken away, and when the form carrier is in lowermost position as indicated in full lines, the rollers I are passing over the inking plate.

The inking plate J is curved at the rear end, as shown in dotted lines and preferably carried around to a point substantially opposite the axis of the shaft of the sprocket wheel G, to afford a greater inking surface on the plate.

The ink fountain P may be of any form, but is preferably of the common "American" style carried on the bracket C and provided with the lid Q. The fountain roll R is carried on the shaft S and is provided with a ratchet wheel T, pawl carrier U and spring pressed pawl V. Rotation is imparted to the fountain roll R from the form carrier by means of the connecting link W pivoted on the crank arm X on the form carrier at one end and connected to the pawl carrier U at the other end by means of the adjustable collars Y, between which and the pawl carrier is provided lost motion for adjusting the stroke of the fountain roll.

The ink distribution roll Z, preferably of cast iron, is pivoted on the carrying brackets, and is adapted to be driven continuously by means of the chain or belt *a* from the pinion *b*, meshing with the gear L. Between the fountain roll R and the distribution roll Z is provided the vibrating composition ductor roll *c* carried on the ends of the vibrating levers *d*, which in turn are secured to the shaft *e*. Frictionally held on said shaft *e* by means of the collar *f*, spring *g* and nut *h* is the forked arm *i* engaging the finger *j* on the connecting link W, whereby longitudinal movement of the connecting link rocks the shaft *e* and with it the ductor roller *c*. The frictional engagement between the forked arm *i* and shaft *e* enables excessive stroke of the connecting link to be taken up in lost motion in the frictionally engaged lever *i*. To prevent excessive pressure on the ductor roll, the vibrating levers *d* are provided with extensions 10, vibrating between adjustable stops in the form of screws 12 to limit the stroke of the ductor roll.

The ink distribution roll Z is provided with a plurality of composition vibration rolls *k*, which rest on the periphery of the distribution roller and are driven thereby. The vibration rollers are adapted to move longitudinally across the distribution roller, and are so connected that they make one stroke per

revolution of the distribution roller. As shown, the cores or spindles *l* of the vibration rolls *k* are provided with grooved rollers *o* at their ends. Suitably carried in a bracket *p* on one of the frames C is a stem *q* provided with arms *r*, having pins *s* engaging the grooves in the rolls *o*. The lower end of the stem *q* is provided with a bent finger *t* having a pin *u* engaging the cam groove *v* on the end of the shaft of the distribution roller Z, whereby rotation of the distribution roller causes an endwise movement of the vibration rolls.

A composition brayer roll *w* is adapted to carry ink from the distribution roller to the inking plate J by suitable connections actuated from the form carrier A. As shown, angular brayer arms *x* are connected fast to the brayer arm shaft *y* pivoted in the carrying bracket C. These brayer arms carry the lower brayer frame *z*, which is pivoted thereto on the shaft 2 and flexibly connected to the brayer arms by means of the hooked springs 3 wound about the shaft 2 and provided with hooked ends, one of which engages the brayer arm, and the other the brayer frame. The brayer arm shaft is provided with a short arm 4, to which is pivoted at 5 the link 6, pivoted at its other end to the crank 7 on the form carrier. As the form carrier is raised the link 6 and arm 4 rock the brayer arm shaft *y*, thereby carrying the brayer arms, lower brayer frame and brayer roll into the position indicated in dotted lines, thus carrying the brayer roll over the inking plate and applying ink to said plate. The flexible connection in the form of springs 3 between the brayer arms and the lower brayer frame prevents injury to the brayer roll. When the form carrier is in its highest position as indicated in dotted lines, the inking rollers are inking the type and the brayer roll is giving ink to the ink plate.

Obviously some features of this invention may be used without others and the invention may be embodied in widely varying forms.

Therefore, without limiting the invention to the devices shown and described, and without enumerating equivalents, I claim and desire to obtain by Letters Patent the following:—

1. In an inking device, the combination of a vibrating form carrier, an inking plate, inking rollers adapted to travel around the form carrier, an ink fountain and the fountain roll, a metallic ink distribution roll, a vibrating ductor roll between the fountain roll and the distribution roll, and a brayer roll adapted to convey ink from the distribution roll to the inking plate, and connected to be actuated by the form carrier.

2. In an inking device, the combination of a pivoted vibrating form carrier and inking plate, inking rollers adapted to travel around the form carrier, and means for driving the same, an ink fountain, a fountain roll and means for rotating the same connected to be actuated by the form carrier, a metallic ink distribution roll and means for driving same, a vibrating ductor roll between the fountain roll and distribution roll, a brayer roll adapted to convey ink from the distribution roll to the inking plate, and means connected to be actuated from the form carrier for operating said brayer roll.

3. In an inking device, the combination of a vibrating form carrier and inking plate, an ink fountain and fountain roll, a ratchet and pawl device for rotating said roll, a connecting link between said ratchet and pawl device and the form carrier, an adjustable connection between said link and the ratchet and pawl device, a metallic ink distribution roll, a vibrating lever and ductor roll carried thereby, and frictional means for vibrating said lever connected to be operated by the said link.

4. In an inking device, the combination of a vibrating form carrier and inking plate, an ink fountain and fountain roll, a ratchet and pawl device for rotating said roll, a connecting link between said ratchet and pawl device and the form carrier, an adjustable connection between said link and the ratchet and pawl device, a metallic ink distribution roll, a vibrating lever and ductor roll carried thereby, frictional means for vibrating said lever connected to be operated by the said link, and means for adjusting the stroke of said vibrating lever carrying the ductor roll.

5. In a printing press, the combination of a vibrating form carrier, an inking plate carried thereby, inking rollers adapted to travel around the form carrier and means for operating said rollers, an ink fountain and fountain roll, a connecting link connected to be actuated by the form carrier for rotating said fountain roll, an ink distribution roll and means for continuously driving the same, a vibrating lever between the fountain roll and distribution roll, a ductor roll carried by said lever, means actuated by the said connecting link for vibrating the ductor roll, a brayer roll adapted to convey ink from the distribution roll to the inking plate, and means connected to be actuated from the form carrier for operating said brayer roll.

6. In a printing press, the combination of a vibrating form carrier, an inking plate carried thereby, inking rollers adapted to travel around the form carrier and means for operating said rollers, an ink fountain and fountain roll, a connecting link connected to be actuated by the form carrier for rotating said fountain roll, an ink distribution roll and means for continuously driving the same, vibration rolls adapted to vibrate longitudinally of the ink distribution roll, means connected to be actuated by the rotation of the ink distribution roll for vibrating said vibra-

tion rolls, a vibrating lever between the fountain roll and distribution roll, a ductor roll carried by said lever, means actuated by the said connecting link for vibrating the ductor roll, a brayer roll adapted to convey ink from the distribution roll to the inking plate, and means connected to be actuated from the form carrier for operating said brayer roll.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

CASIMIR VON PHILP.

Witnesses:
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