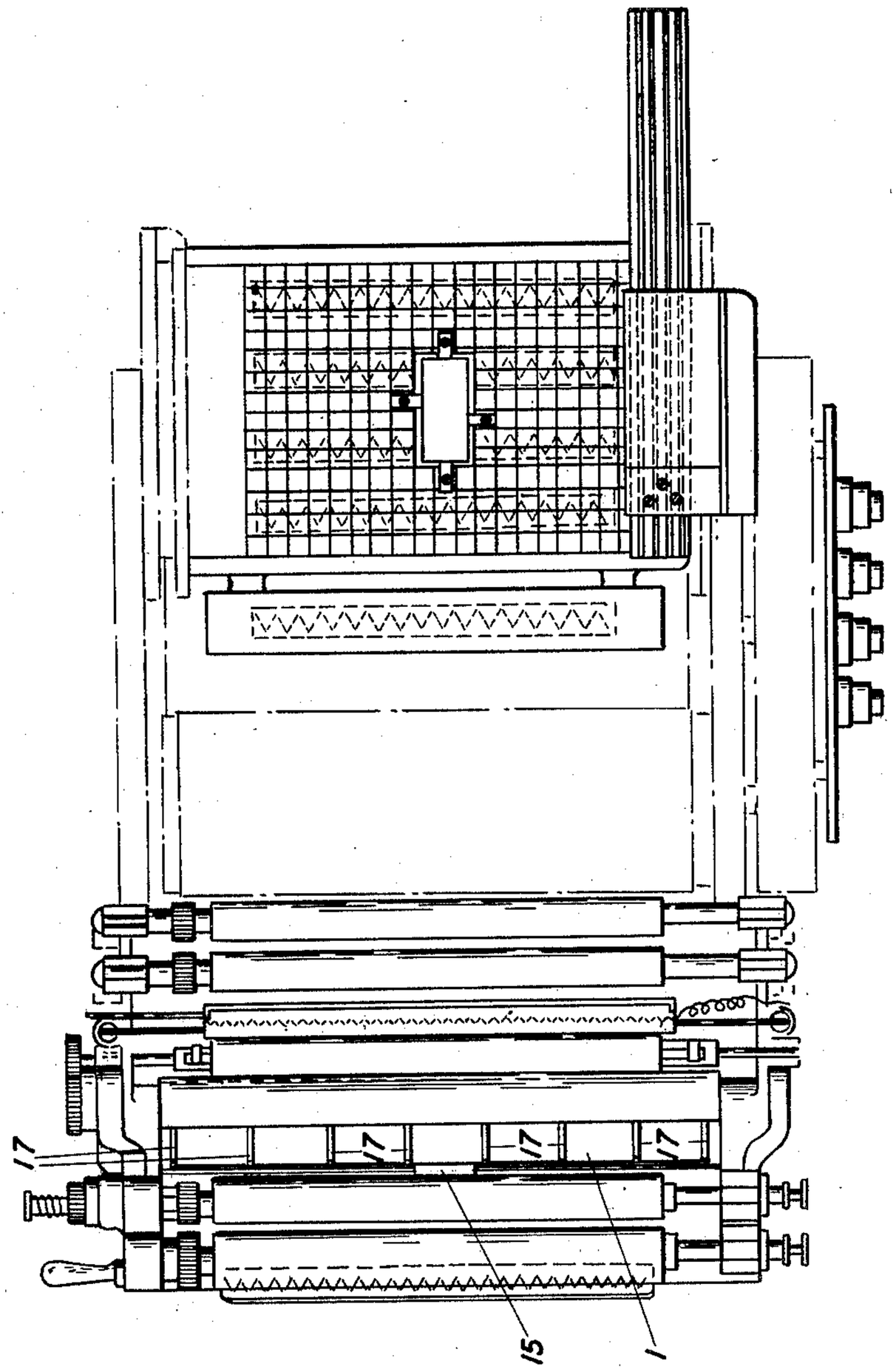
June 5, 1934. N. S. WELK 1,961,826

PRINTING PRESS FOR PRINTING WAX CARBON SPOTS ON SHEETS OF PAPER

Filed Oct. 17, 1933 3 Sheets-Sheet 1

FIG. 1.

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Filed Oct. 17, 1933 3 Sheets-Sheet 2

FIG. 2.

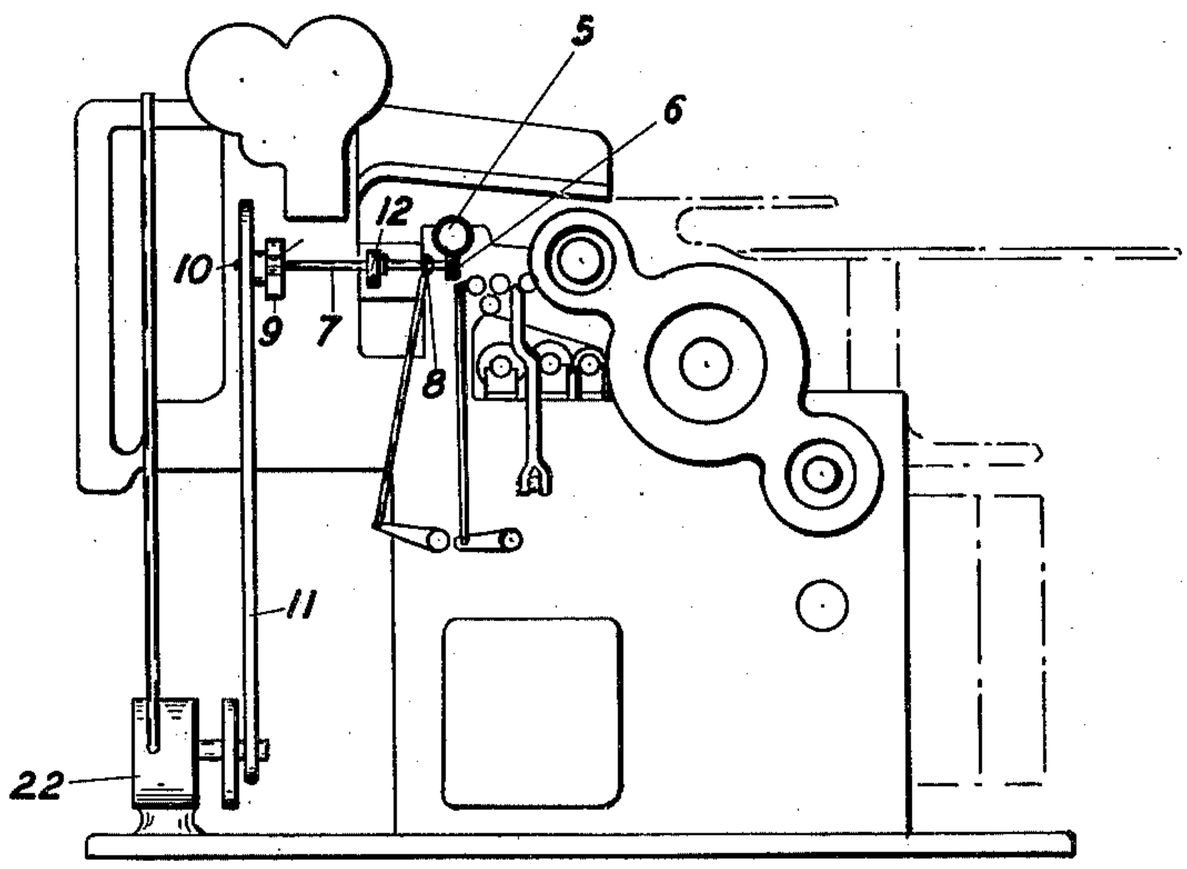


FIG. 3.

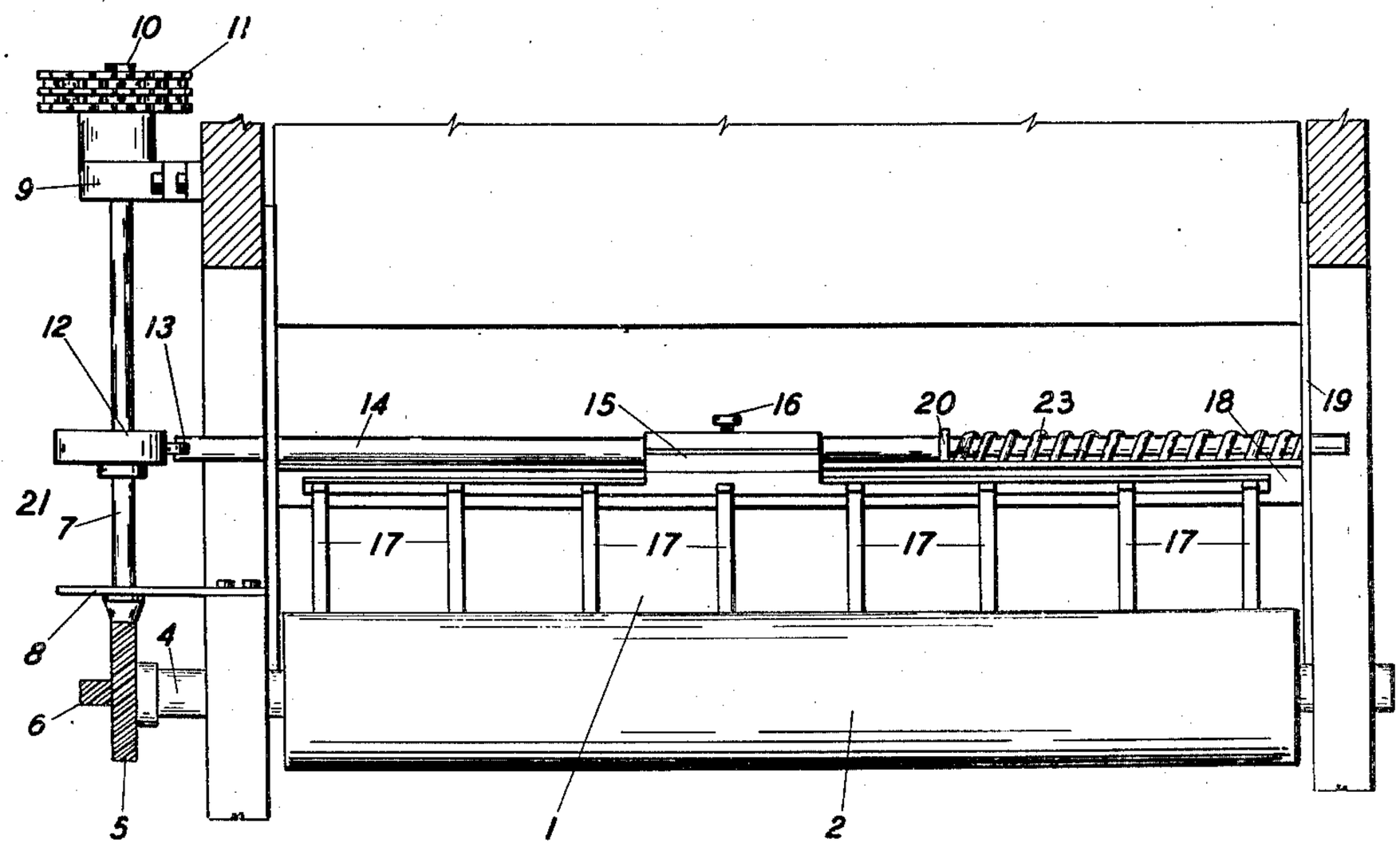


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FIG. 4.

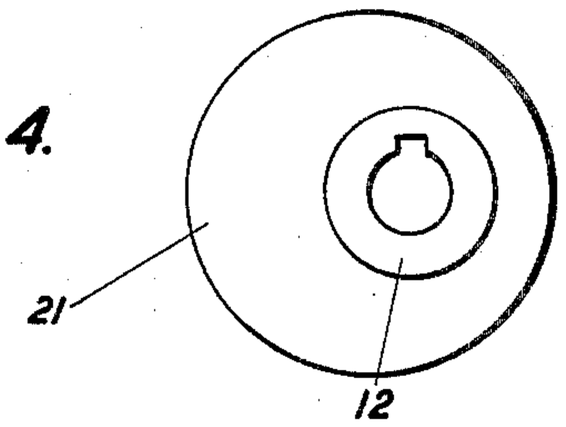



FIG. 5.

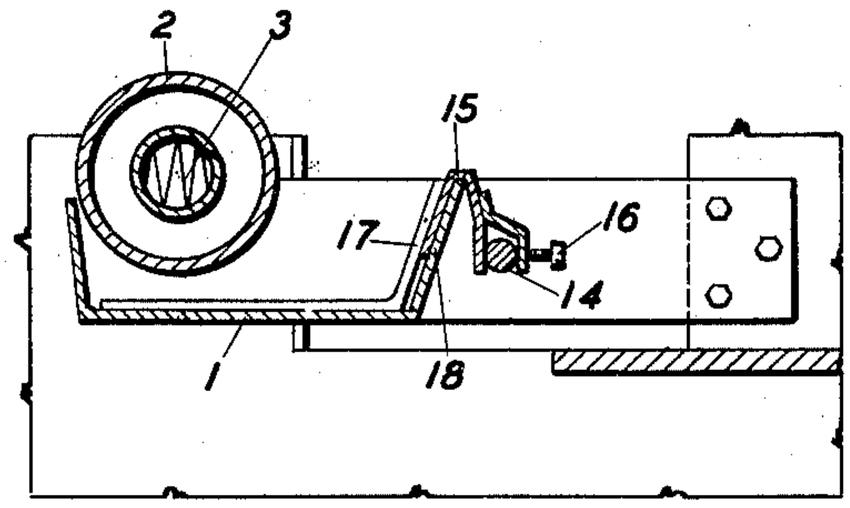



FIG. 6.

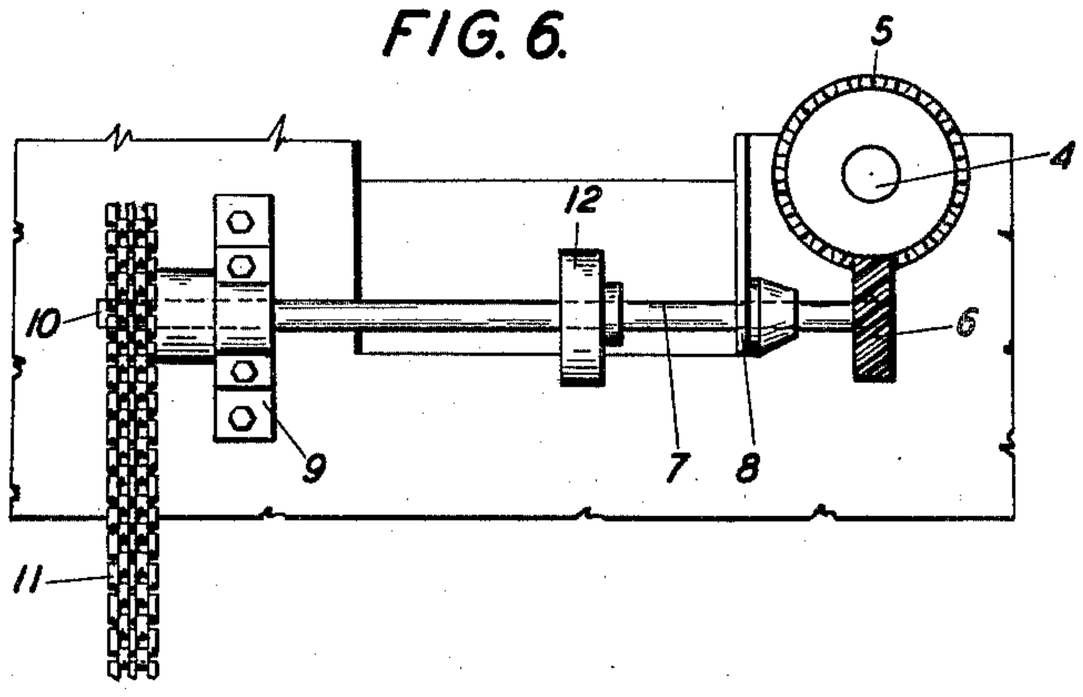
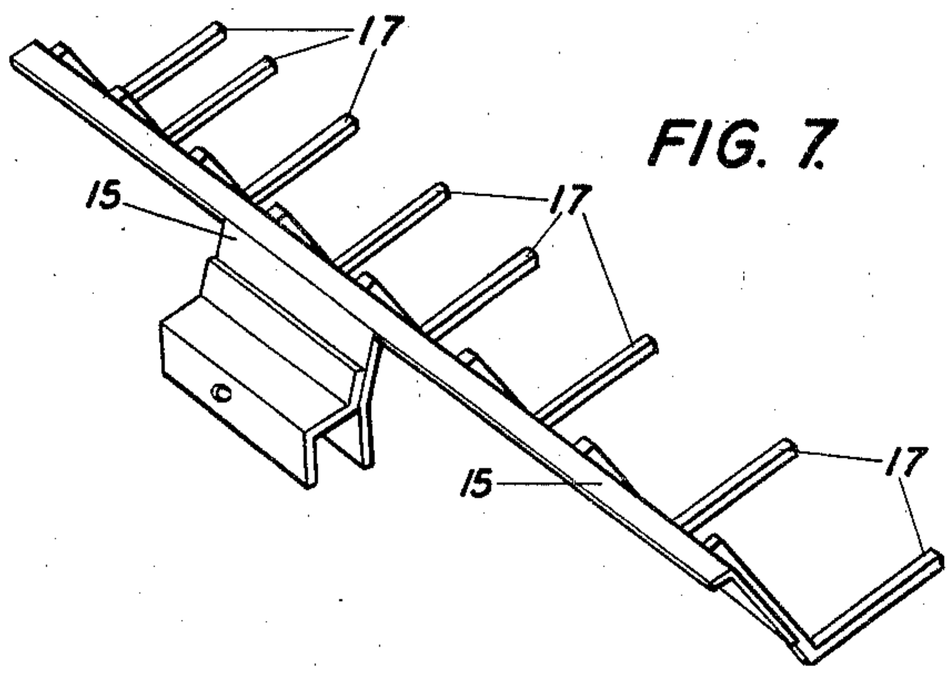



FIG. 7.

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Patented June 5, 1934

1,961,826

# UNITED STATES PATENT OFFICE

1,961,826

## PRINTING PRESS FOR PRINTING WAX CARBON SPOTS ON SHEETS OF PAPER

Nelson S. Welk, Athens, Ohio, assignor to The McBee Company, Athens, Ohio, a corporation of Ohio

Application October 17, 1933, Serial No. 693,898

3 Claims. (Cl. 91—50)

My invention relates to that class of presses which are described in Patent No. 1,860,957 in which I provide an attachment to a Kelly press which is more or less of standard construction and well known to the industry and in which patent I describe an attachment whereby the press can be used for printing wax carbon spots on paper as well as for ordinary printing.

As described in that patent the ink fountain is equipped with an electrical element for the purpose of melting the wax carbon which is used for printing the spots on the paper as are also other parts of the press so as to maintain a temperature under which the carbon properly operates. I have found in practice that it is desirable to provide means to stir the melted compound in the ink fountain and in some cases means are provided for that purpose which are to be manually operated by the operator of the press but I have found in practice that the quality of the work is vastly improved if the added compound is practically continuously agitated.

The object of my present invention is to provide an attachment for the standard Kelly press whereby the ink fountain can be equipped with an agitator which will be substantially continuously operated by the mechanism which drives the press as long as the press is in operation.

My means of accomplishing this object may be more readily understood by having reference to the accompanying drawings which are hereunto annexed and are a part of this specification, in which—

Fig. 1 is a top or plan view of a Kelly press equipped with my improvement, the rollers being thrown back so that a portion of the top of the ink fountain is visible;

Fig. 2 is a side elevation of the rear half of the same press showing the means of driving the ink fountain roller;

Fig. 3 is an enlarged fragmentary plan view of the ink fountain roller, agitator and means of driving the same;

Fig. 4 is an enlarged side view of the cam;

Fig. 5 is a cross section of the structure shown in Fig. 3;

Fig. 6 is a fragmentary detail end view showing the driving means; and

Fig. 7 is a perspective view of the agitator removed from the ink fountain.

Similar reference numerals refer to similar parts throughout the entire description.

As shown in the drawings, the press is provided with an ink fountain 1. Inasmuch as this press is of standard construction I shall confine my description to the attachments to the press for the utilization of my present invention and shall not describe the other details of the press which are shown merely for illustrative purposes so as to show a completely operative machine, the construction of which, however, is well known to persons skilled in the art.

The ink fountain 1 is provided with an ink fountain roller 2 which, as illustrated, is provided with an electrical heating element 3. The shaft 4 of this roller has a spiral pinion 5 secured to it which is in mesh with a spiral gear 6 mounted upon a shaft 7 which is carried by suitable journals 8 and 9, the end 10 of this shaft 7 is provided with a sprocket wheel upon which is mounted a chain 11 which is driven by a motor 22 which is standard equipment on the press. Upon this shaft 7 is mounted a cam 12 against the face of which bears one end 13 of a shaft or rod 14 to which is detachably secured the agitator 15, this attachment being by means of a thumb screw 16, although obviously any suitable or convenient means of attachment may be employed if desired.

The agitator 15 is provided with a number of blades 17 which as clearly seen in Fig. 5, extend down along the side 18 of the ink fountain and across the bottom thereof. A coil spring 23, one end of which bears against a wall 19 of the press and the other against the collar 20 fixedly secured to the shaft 14 serves to hold the end 13 of the rod or shaft 14 against the face of the cam 12. The operation of the device is as follows:

When the motor 22 is started, obviously the chain 11 will be driven and this in turn will rotate the shaft 7. This carries with it the spiral gear 6 which rotates the spiral pinion 5 on the shaft 4 of the ink fountain roller 2.

As this motor runs continuously during the operation of the press it is apparent that the shaft 7 will be continuously rotated. Its rotation carries with it the cam 12 and as the eccentric portion 21 thereof is rotated about the shaft 7 it will move the shaft or rod 14 longitudinally, this carries with it the agitator and the blades thereof will be moved along the bottom of the ink fountain 1. As the rotation of the cam continues the coil spring 18 will press the rod or shaft 14 tightly against the face of the cam 12 and move the agitator in the opposite direction until a complete cycle of movement is accomplished and as the shaft 7 is continuously rotated during the operation of the press, it follows that the agitator will be continuously re-

ciprocated in the ink fountain as long as the press is operating.

It will be apparent to persons skilled in the art that very few additions are necessary to equip the ordinary Kelly press with this attachment so that the quality of the work turned out when it is equipped with my attachment for printing wax carbon spots on paper, the quality of the work will be very greatly improved.

Although I have described a specific form of apparatus for the reciprocation of the agitator, I do not wish to be understood as limiting myself of the precise details as shown and described which are given merely for the purpose of illustrating a preferred embodiment of the device which, in practice, I have found to be very satisfactory. I do not wish to be understood as limiting myself thereto except as such limitations may appear in the hereinafter appended claims.

Having described my invention what I regard as new and desire to secure by Letters Patent is:

1. In a printing press for printing wax carbon spots on sheets of paper comprising a heated ink fountain and an ink fountain roller, power driven means to rotate the roller, an agitator arranged in said fountain and having a plurality of agitator blades extending entirely across the bottom of the fountain, a shaft paralleling said fountain, means for detachably mounting said agitator upon the shaft at a single point, said means consisting of an inverted substantially U-shaped member resting over the shaft and means to attach said U-shaped member to said shaft, means for reciprocating the shaft through the medium of the power driven means, and supporting and guiding means for the agitator.

2. A printing press for printing wax carbon spots on sheets of paper comprising a heated ink fountain and an ink fountain roller, power driven means to rotate the roller, an agitator for said fountain adapted to be positioned therein comprising a guide plate adapted to rest against and slide upon a wall of said fountain, agitator blades rigidly carried by the plate and extending entirely across and in close proximity to the bottom of the fountain, a reciprocatory shaft positioned outwardly of and parallel to the wall of the fountain, an extension on said plate arranged outwardly of the fountain and terminating in a forked extension for engagement over said shaft, a set screw for retaining the extension in fixed position, a roller carried by one end of the shaft, a cam carried by said driven means and engageable with said roller to move the shaft in one direction, a spring for moving the shaft in the opposite direction, the reciprocation of said shaft imparting its movement to the agitator through the medium of the extension connection.

3. An attachment for printing presses for printing wax carbon spots on sheets of paper, said press having side frames, a heated ink fountain, ink fountain roller and a shaft therefor; comprising, a readily removable agitator for said fountain, said agitator having an angle plate which slides on the upper edge and one side wall of the fountain, a plurality of blades which extend from said plate entirely across the bottom of the fountain adjacent thereto, a shaft which extends across the press slidably mounted in the side frames of the press, a quickly detachable means to secure said plate to said shaft, a spiral pinion on the shaft of the ink fountain roller, a spiral gear which meshes therewith, a driven shaft therefor, a cam on said shaft, a roller on one end of the agitator shaft, a spring to hold it against the face of the said cam, whereby the movement of said shaft will be imparted to said blades.

NELSON S. WELK.