Sheet 1. 2 Sheets.

Kuhlenschmidt & Hauff.
Feeder for Printg Press.

No. 10828. Patented Apr. 25. 1854.

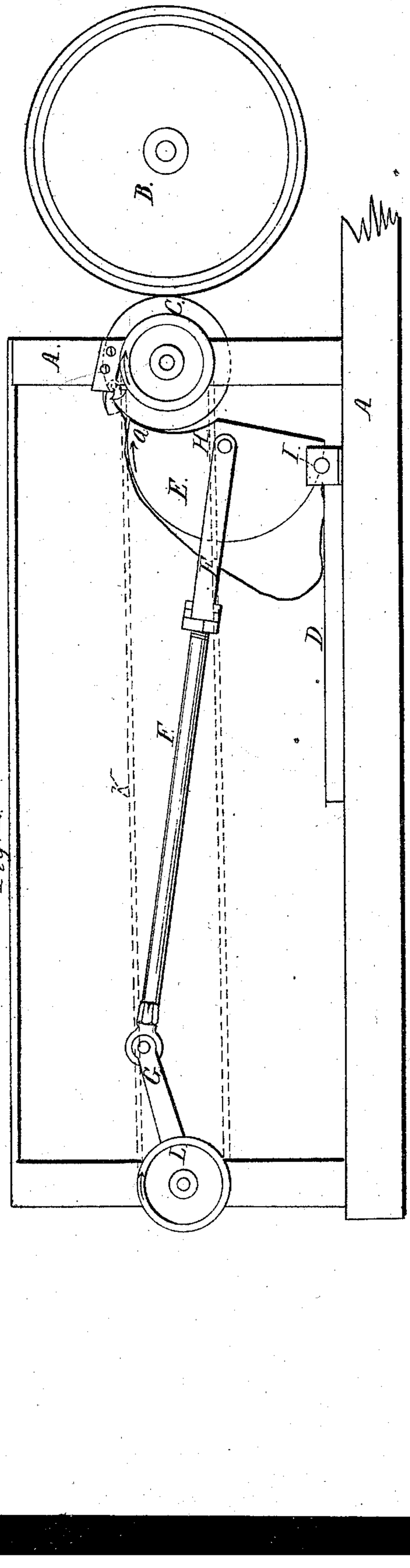

Fig. 1.

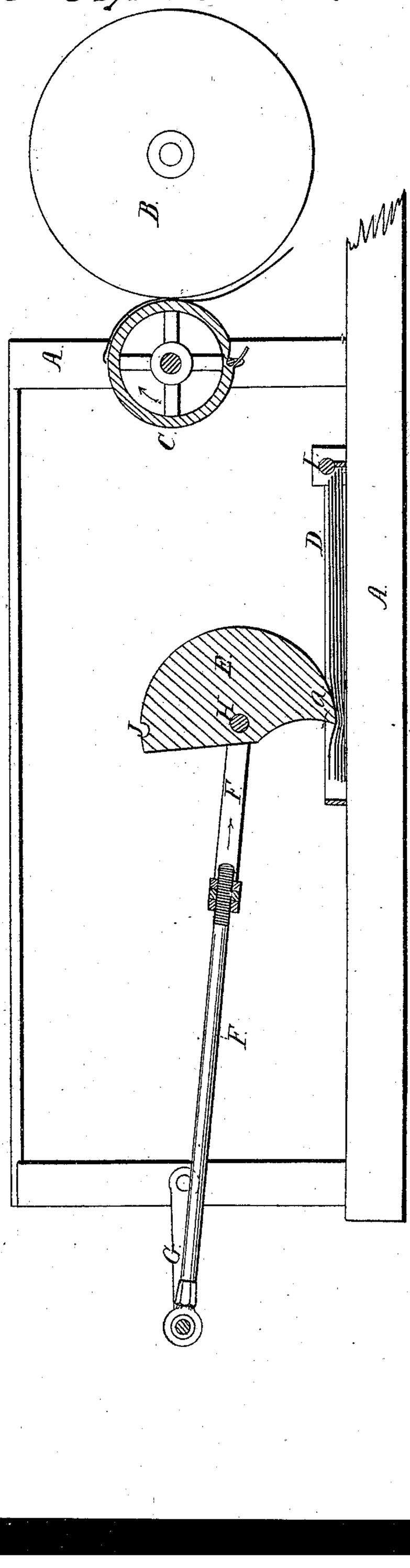

Fig. 2.

Sheet2. 2 Sheets.

Kuhlenschmidt & Hauff.
Feeder for Print'g Press.

No. 10828 Patented Apr. 25. 1854.

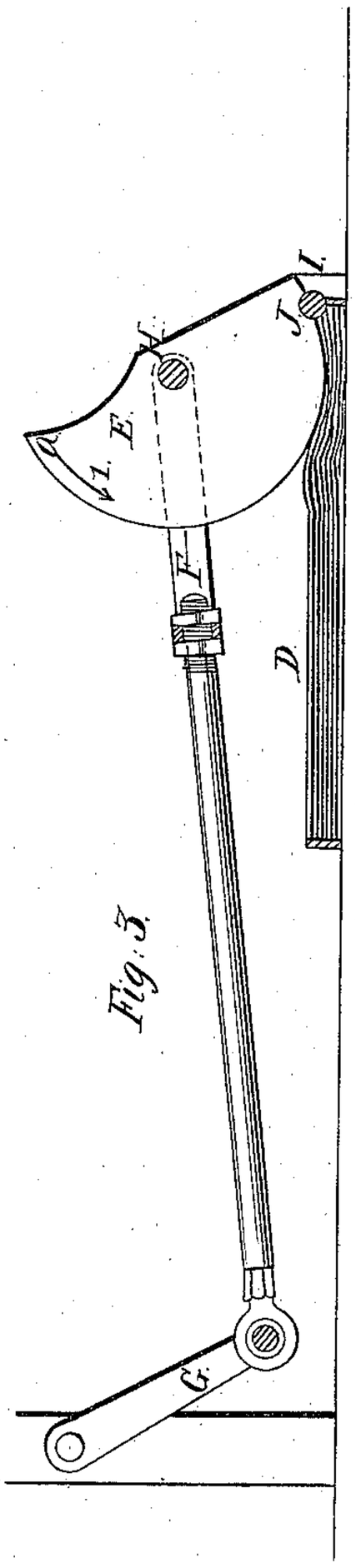

Fig. 3.

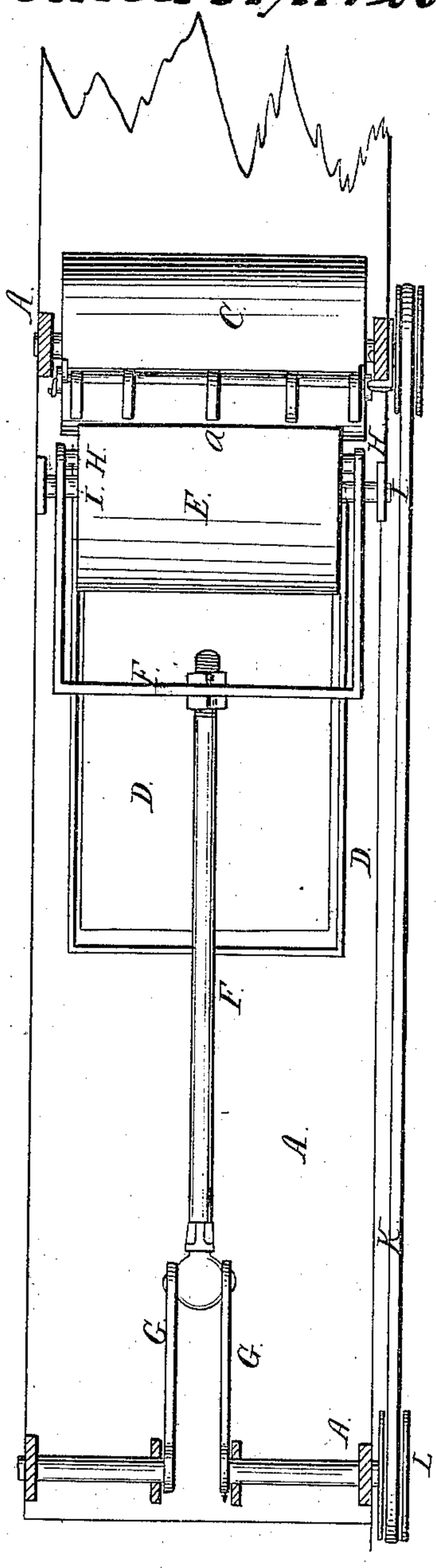

Fig. 4.

UNITED STATES PATENT OFFICE.

W. KUHLENSHMIDT AND W. HAUFF, OF NEW YORK, N. Y.

APPARATUS FOR FEEDING PAPER TO PRINTING-PRESSES.

Specification of Letters Patent No. 10,828, dated April 25, 1854.

To all whom it may concern:

Be it known that we, W. KUHLENSHMIDT and WILLIAM HAUFF, of the city, county, and State of New York, have invented a new and useful improvement in devices or machines for feeding sheets of paper singly or one at a time to printing-presses, paper-ruling machines, and other machines requiring the feed of a single sheet of paper at a time; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1, is a side elevation of our apparatus and part of a printing press. In this view the semicircular feeding roller is represented in the position it occupies after having loosened or separated the sheet from the layer of paper and conveyed it to the fingers of the paper cylinder. The red line in this view shows the manner in which the sheet is fed to said cylinder. Fig. 2, is a longitudinal section of the same, the semicircular feed roller being shown in the position it occupies when about to lift or take hold of the back end of the sheet. Fig. 3, is a longitudinal section of the working parts, showing the manner in which the roller loosens or separates the top sheet from those under it before taking hold of it for the purpose of feeding it to the paper cylinder. Fig. 4 is a plan of the machine in the same position as shown in Fig. 1.

Similar letters of reference in each of the several figures indicate corresponding parts.

The great difficulty attending devices heretofore invented for feeding sheets of paper to printing presses and other machines has been the occasional feeding of two sheets at a time owing to the liability of the sheets adhering together as they are taken up, and to obviate this difficulty is the object of our invention, the nature of which consists in the employment of a semicircular roller, or its equivalent, so arranged and operated that it will in its backward movement from the paper cylinder loosen or detach the top sheet of a layer of paper from those underneath it and then lift up the back end of said sheet and in its forward or return movement toward the paper cylinder feed it to the fingers of the paper cylinder, the said feed roller being provided with some adhesive cement on that part which bears on the back end of the paper for the purpose of perfectly taking up the sheets.

Our invention consists, 2nd, in taking up the sheet by its back end instead of its front end, whereby the liability of two sheets getting on the paper cylinder at one time is avoided for it will be seen that by thus taking hold of the sheet it will be gradually lifted up from the one under it and made to roll round or follow the feeding roller until its whole surface is separated from the sheet under it, when it is fed to the paper cylinder. Whereas when the sheet is carried forward by its front end it is not lifted up high enough to separate its whole surface from the sheet next to it, and consequently two sheets are occasionally fed to the paper cylinder at one operation.

To enable others skilled in the art to make and use our invention we will proceed to describe its construction and operation.

A, represents a portion of the frame of a printing press.

B in red, Figs. 1 and 2, is intended to show the printing cylinder; C, the paper cylinder to which the fingers are attached.

D, is a rectangular box for holding the white sheets of paper, it is arranged on the bottom of the frame A.

E, in the semicircular feed roller—which may be made solid and have a suitable cement or paste on the sharp end *a*—for taking hold of the sheet and carrying it up to the paper cylinder as shown in Figs. 1 and 2. The semicircular feed roller is shaped so as to correspond to the shape of the paper cylinder when it occupies the position shown in Fig. 1.

F, is a forked shaped connecting rod for connecting the semicircular feed roller to the crank G, in the manner shown in the drawing. The feed roller E, turns on the shaft H, to which the forked end of the rod F, is attached. The shaft H has no fixed bearing—but descends as the quantity of paper in the box D, decreases and rises when the quantity is increased—it and the feed roller turning and moving together. By thus arranging the feed roller it accommodates itself to the gradual decrease of the paper in the box.

I, is a step rod which serves for keeping the roller to the proper height no matter whether nearly all the sheets have been fed out of the box D.

J is a semicircular groove in the periphery of the feed roller—near the end opposite that which takes up the sheet . In this groove the rod I, fits, in the manner shown in the drawing Figs. 1, and 3. The said rod I, serves to elevate the feed roller E, as it assumes the position shown in Figs. 1 and 4.

K, is a band leading from the paper cylinder to the driving wheel L, of the crank G for giving motion to the working parts. A chain might be used instead of a band—which will render the operation more perfect.

The operation is as follows: The crank is set in motion by the band K; the semicircular feeding roller is caused to turn in the direction indicated by the arrow 1, Fig. 3, from the position shown in Fig. 1, to that shown in Fig. 3. When it commences to loosen the sheets in a similar manner as when the "lay on boy" presses upon them and runs his "folder" from one end of the sheet to the other—the feed roller still continues to turn and to cause the top sheet to separate from the one under it until it assumes the position shown in Fig. 2, when it takes up the sheet and moves around with it in the manner shown in Fig. 1. As it moves around and feeds the sheet to the paper cylinder the feed cylinder steps on the step I, and is elevated sufficiently high to feed the sheet to the fingers—notwithstanding there may not be more than two or three sheets in the box D. The drawing of the sheet from off the others by taking hold of its back end and carrying it upward in the manner shown in the drawing Fig. 1, causing its whole surface to be separated from the sheet under it before the fingers take hold of it.

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

1. The employment of a semicircular roller or its equivalent, so constructed arranged and operated that it will in its backward movement from the paper cylinder loosen or detach the top sheet of a layer of paper from those underneath it and then take hold of the back end of said sheet, and in its forward or return movement toward the paper cylinder raise the said back end of the sheet and gradually separate the whole surface of the same from contact with the one under it and then feed it to the fingers of the paper cylinder, substantially as herein described.

2. We claim taking up the sheet by its back end instead of by its front end for the purpose set forth.

W. KUHLENSHMIDT.
W. HAUFF.

Witnesses:
Jos. O. Brown,
Albert Wadhams.