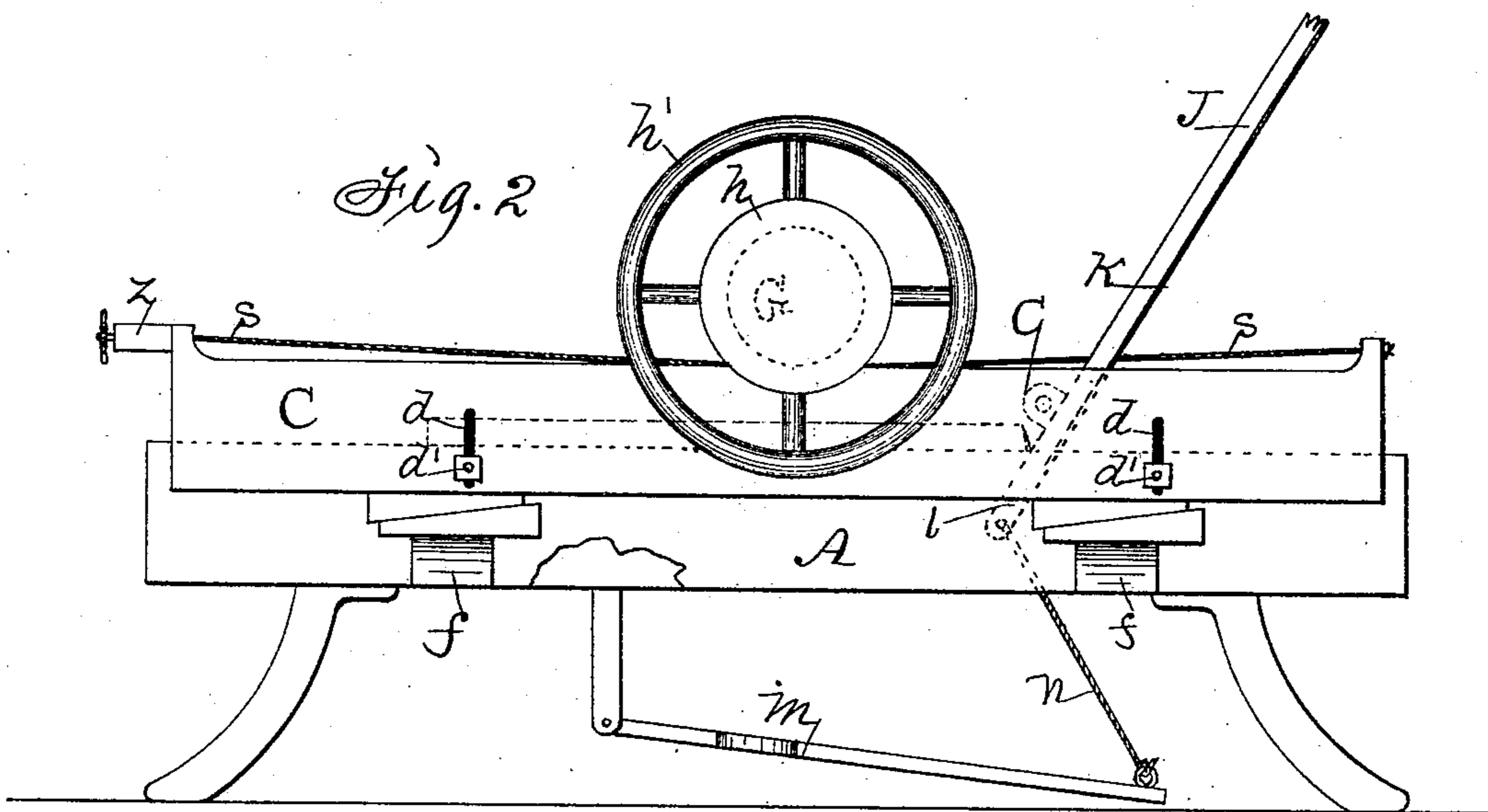
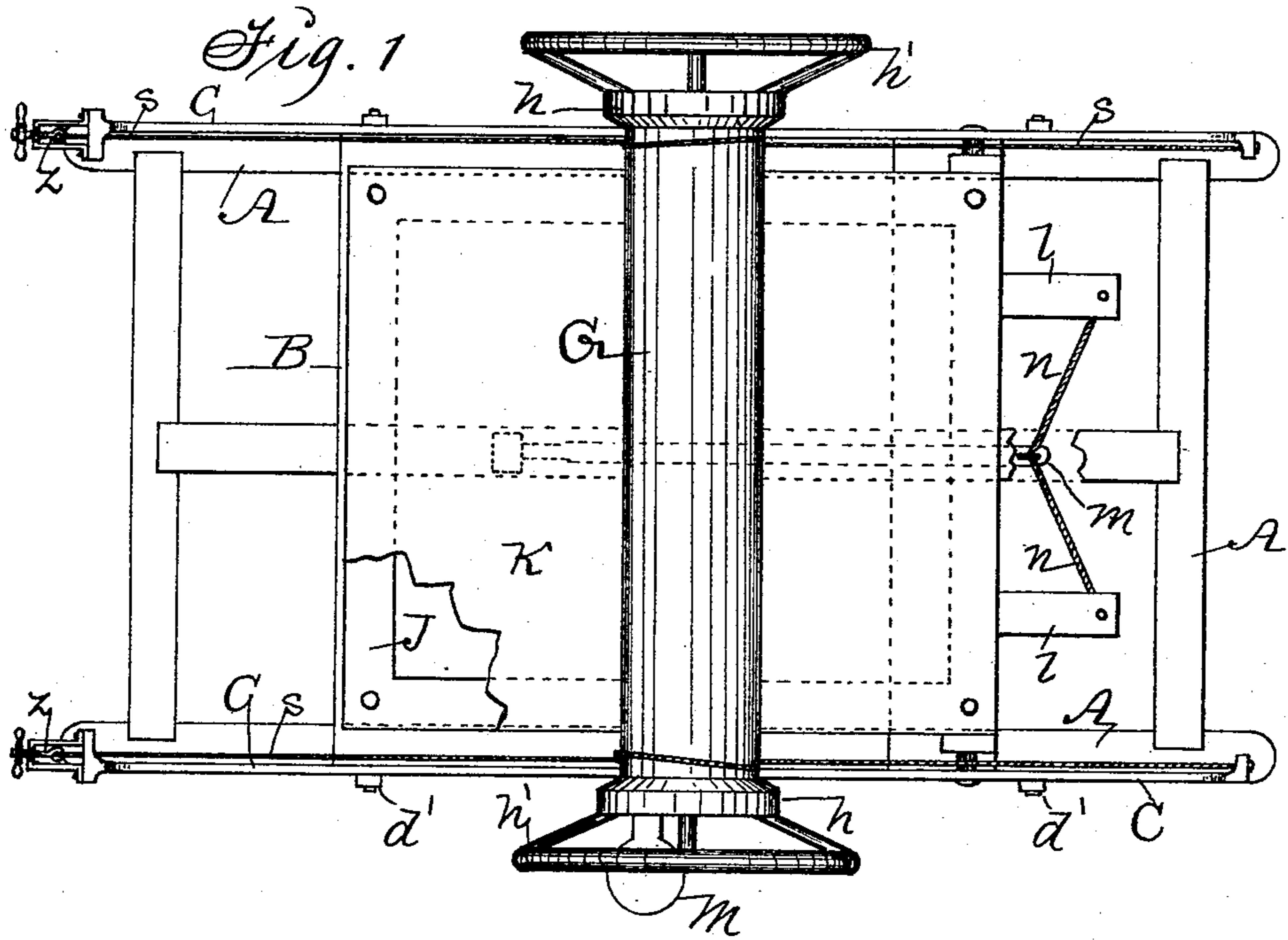


(No Model.)

A. W. VAUGHN.
PRINTING MACHINE.

No. 453,988.

Patented June 9, 1891.



Witnesses:
M. P. Smith.
C. H. Stiles.

Inventor:
Augustus W. Vaughn,
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UNITED STATES PATENT OFFICE.

AUGUSTUS W. VAUGHN, OF MENLO, ASSIGNOR TO F. H. KINGSBURY, OF
CRESTON, IOWA.

PRINTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 453,988, dated June 9, 1891.

Application filed July 25, 1887. Renewed April 18, 1891. Serial No. 389,458. (No model.)

To all whom it may concern:

Be it known that I, AUGUSTUS W. VAUGHN, a citizen of the United States of America, and a resident of Menlo, in the county of Guthrie and State of Iowa, have invented an Improved Printing-Machine, of which the following is a specification.

My object is to simplify the manufacture, reduce the cost, and improve the operation of a rotary cylinder hand-press; and my invention consists in the construction and combination of a stationary bed, adjustable tracks to support a cylinder, a rotating cylinder, a tympan having a rigid cover, cables for governing the cylinder, and a treadle, as hereinafter set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a top view showing the cylinder engaging the rigid cover of the tympan, as required in making an impression and printing a sheet upon a form on the fixed bed underneath. Fig. 2 is a side view showing the tympan in a vertical position and the treadle combined therewith elevated.

A represents an oblong frame that may vary in size and shape as required to serve as a base for presses of different size. It is preferably made of cast-iron.

B is a solid metal plate and bed retained stationary upon the base and frame A by its own weight, or fixed thereto by means of bolts or in any suitable way.

C C are tracks adjustably connected with the sides of the frame A in such a manner that they can be raised and lowered relative to the bed as required to regulate impressions. They are provided with slots *d*, that extend vertically, through which pins or bolts *d'*, fixed to frame A, project horizontally. Nuts on the ends of these bolts retain the tracks perpendicular.

ff are key-seats formed in or fixed to the sides of the frame A in such a manner that keys, quoins, or wedges can be placed between the said seats and the under sides of the tracks C, and readily operated to raise or lower one or both ends of each track as required to regulate the impression.

G is a solid metal cylinder provided with flanges *h* at its ends that overlap the top

edges of the tracks C, as clearly shown, and as required to prevent any longitudinal movement of the cylinder.

h' are hand-wheels fixed to the flanges *h*. 55

J is the frame of a tympan hinged to the track C in such a manner that it can be folded down flat upon the bed B, or elevated and inclined, as shown in Fig. 2.

k is a solid metal plate fixed on the upper side of the frame J in such a manner that the cylinder G will engage its top surface as it is rolled over, to make an impression upon a sheet placed between the tympan and a form in the bed. 60

ll are arms extending from the rear end of the tympan, that engage the rear end of the bed and restrict the backward motion of the tympan and retain it stationary, as shown in Fig. 2. 65

M represents a treadle connected with the free ends of the arms *l*, by means of cords *n*, in such a manner that the tympan can be elevated by foot-pressure whenever desired. 70

s s are cables fixed to the inwardly-projecting flanges on the ends of the tracks C, coiled around the ends of the cylinder G, and then connected with tension devices *z* at the opposite ends of the tracks in such a manner that they can be stretched taut to aid in keeping the cylinder G square relative to the tracks and in facilitating and governing the movements of the cylinder, so that there will be no undue friction on the flanges *h* and no sudden motions, jarring, or noise. 75

From the foregoing description of the construction and function of each part, the novelty, operation, and utility of my invention will be obvious to printers and persons familiar with printing machinery. 80

I am aware that tracks have been automatically raised and lowered relative to a cylinder and a bed-plate for the purpose of passing over a form on the bed without making an impression. I am also aware that tracks have been supported upon springs in such a manner that a vertically-adjustable cylinder could be raised and lowered relative to the yielding tracks to regulate impression; but my manner of combining tracks with a frame and cylinder so that each end of each track can be adjusted vertically relative to the bed for the 85 90 95 100

purpose of regulating the pressure of the cylinder upon a form on the bed is novel and greatly advantageous.

I am also aware that a metal plate has been
5 fixed to the under side of the frame of a tympan to engage a form on the bed-plate; but my manner of fixing a solid plate upon the upper side of a tympan-frame to engage the surface of a cylinder for the purpose of
10 distributing the weight of the cylinder evenly upon the tympan and the form under it is novel and greatly advantageous.

I am also aware that bands have been fastened to a cylinder and taken around the cylinder and then stretched over directing-pulleys; but my manner of combining the ends of cords with vertically-adjustable tracks and a cylinder supported and operated upon the tracks is novel and advantageous.

20 I claim as my invention—

1. The combination of the cylinder G, the

tracks C, and the cables attached to the opposite ends of the tracks, to operate in the manner set forth, for the purposes stated.

2. The base A, the adjustable tracks C, the cylinder G, the cables s, and the tension devices z, arranged and combined substantially as shown and described, for the purposes stated.

3. The combination of a treadle with the frame J, having one or more arms l and cord n attached to said arms, and a base A, having a bed B, for the purposes stated.

4. The combination of a cylinder, tracks to support the ends of the cylinder, cables coiled around the cylinder and fastened to the ends of the tracks, and tension devices for stretching the cables, for the purposes stated.

AUGUSTUS W. VAUGHN.

Witnesses:

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