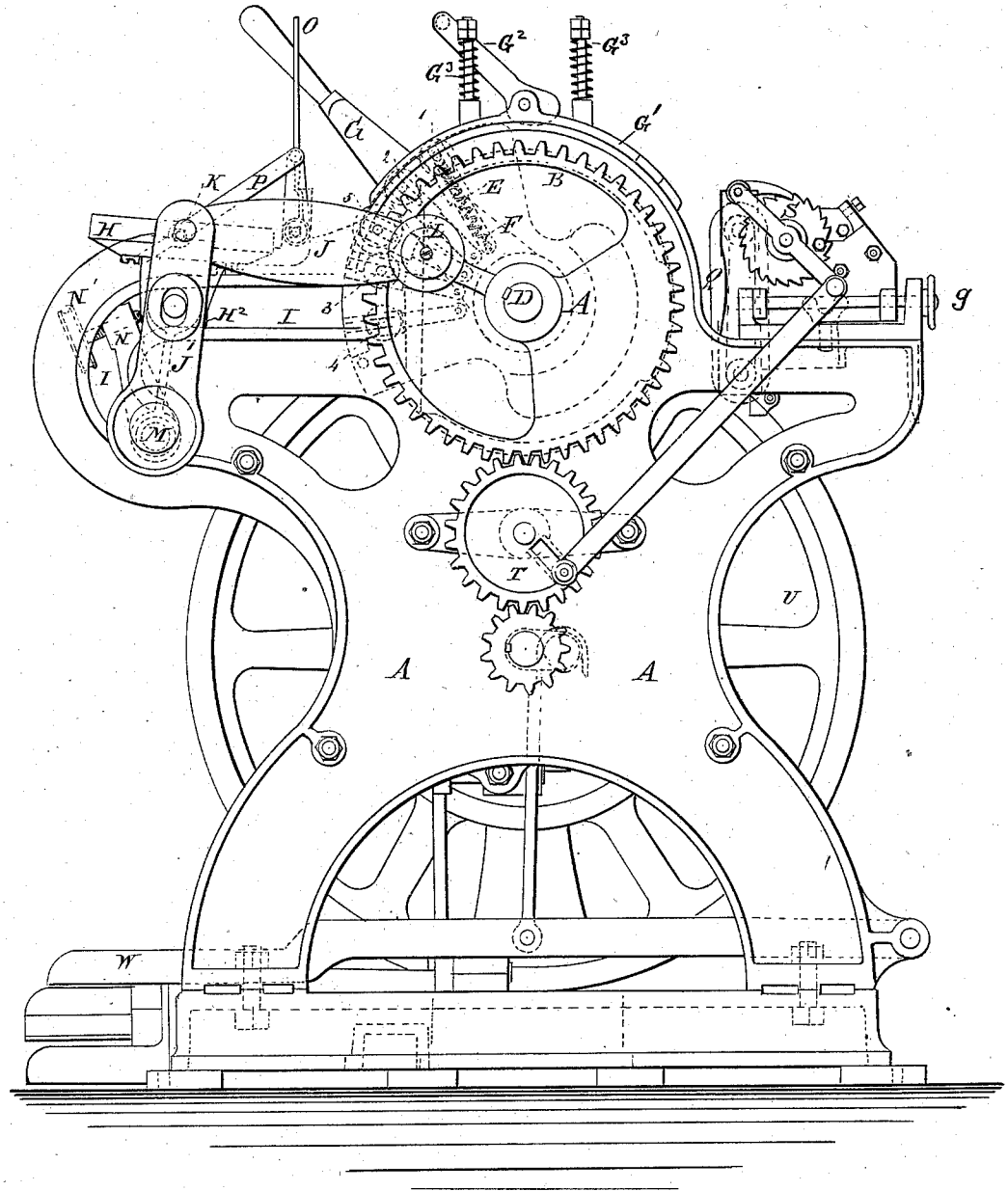
(Model.) 4 Sheets—Sheet 1.

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No. 255,704. Patented Mar. 28, 1882.

Fig: 1.



WITNESSES:

Chas. Nida.

C. Sedgwick

INVENTOR:

H. P. Trueman

J. G. New

BY Munn & Co

ATTORNEYS.

N. PETERS, Photo-Lithographer, Washington, D. C.

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Fig: 2.

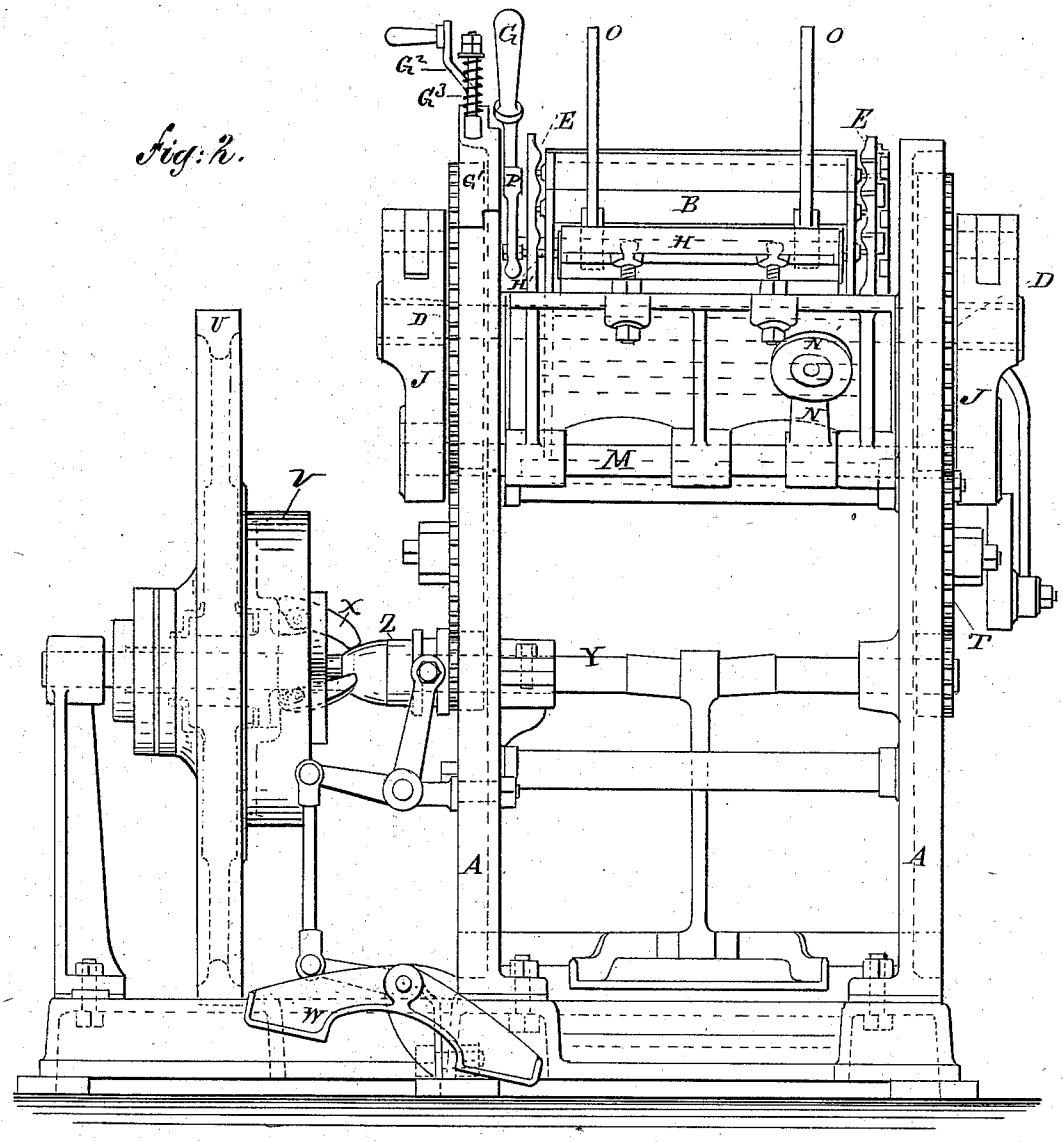
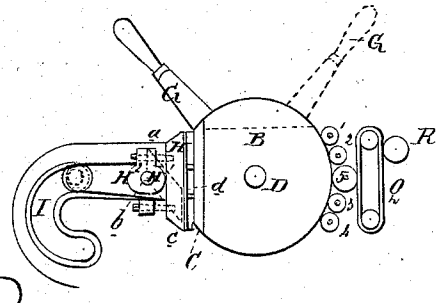


Fig: 3.



WITNESSES:

Chas. Nida.

C. Sedgwick

INVENTOR:

H. P. Trueman

BY J. G. New

Munn & Co

ATTORNEYS.

N. PETERS. Photo-Lithographer, Washington, D. C.

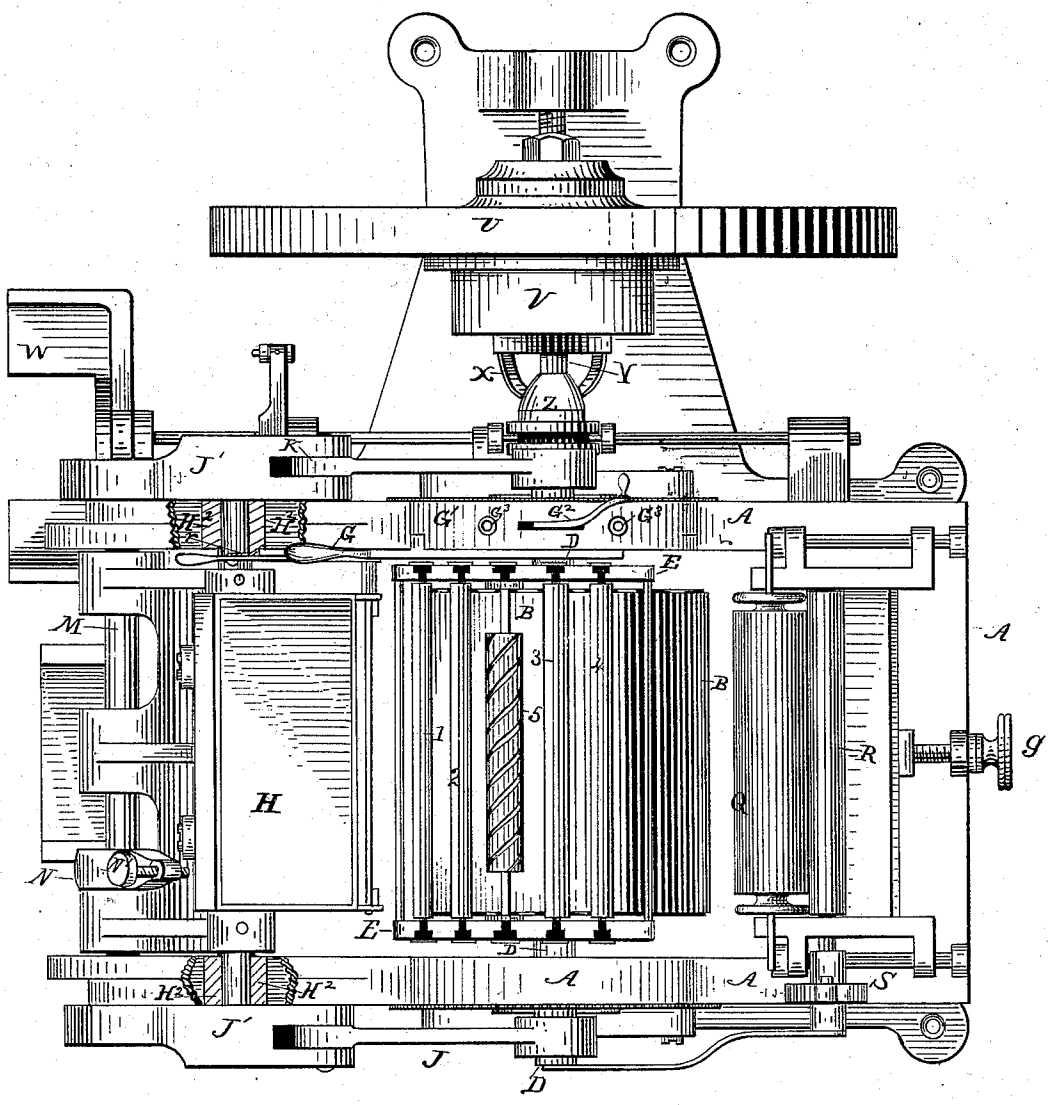
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Fig: 4.



WITNESSES:
Chas. Nida
C. Sedgwick

INVENTOR:
H. P. Trueman
J. G. New
BY Munn & Co
ATTORNEYS.

N. PETERS, Photo-Lithographer, Washington, D. C.

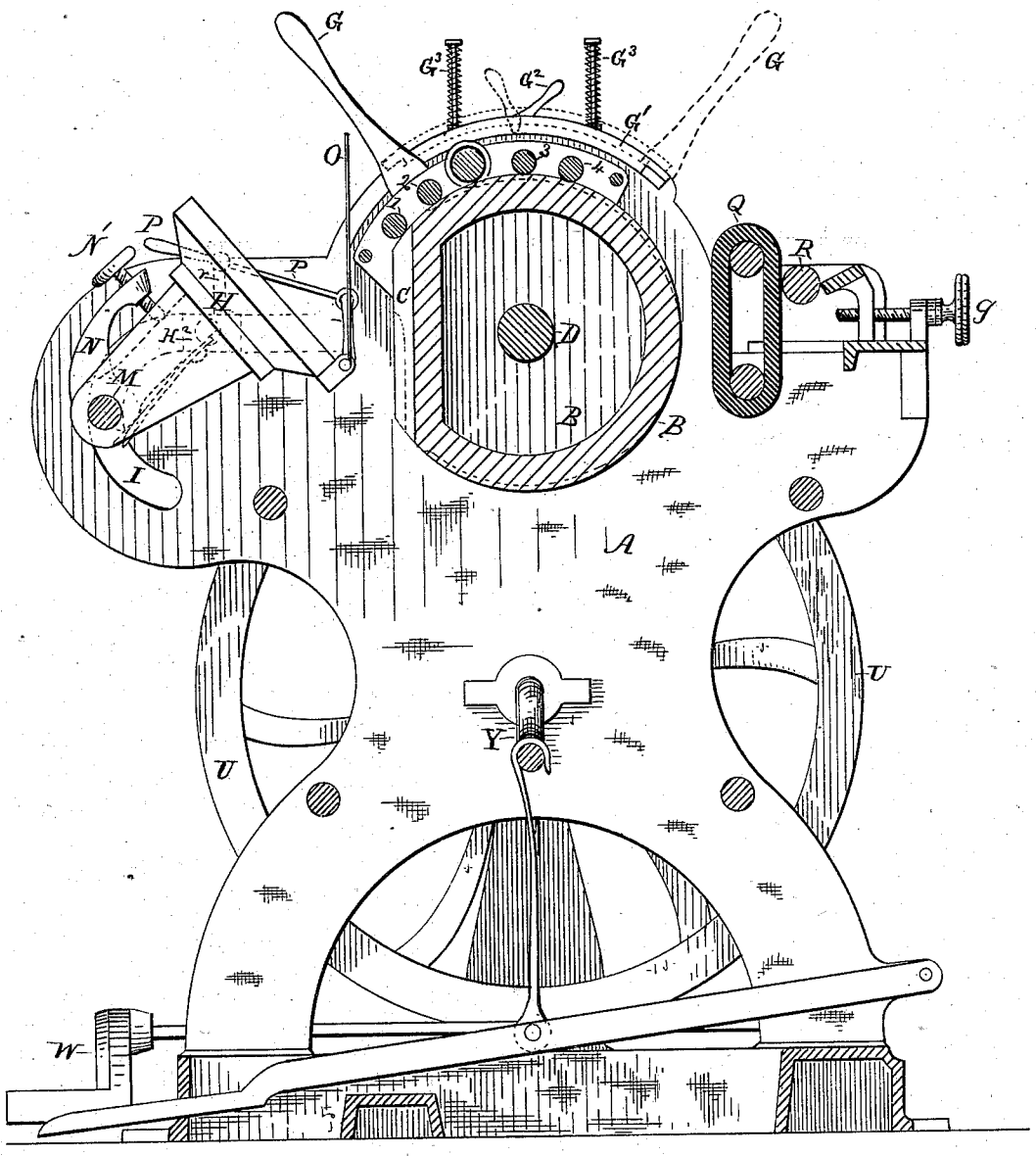
(Model.) 4 Sheets—Sheet 4.

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Fig: 5.



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Chas. Nida.
C. Sedgwick

INVENTOR:
H. P. Trueman
J. G. New
BY Munn & Co
ATTORNEYS.

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

HENRY P. TRUEMAN AND JOHN G. NEW, OF BIRMINGHAM, COUNTY OF WARWICK, ENGLAND.

PRINTING-PRESS.

SPECIFICATION forming part of Letters Patent No. 255,704, dated March 28, 1882.

Application filed October 13, 1880. (Model.) Patented in England November 8, 1879.

To all whom it may concern:

Be it known that we, HENRY PATTMAN TRUEMAN and JOHN GEORGE NEW, of Birmingham, in the county of Warwick, England, have invented a new and Improved Printing-Press, of which the following is a specification.

The object of this invention is to construct a printing-press of great simplicity of construction and little cost.

Our invention is an improvement in the class of printing-presses in which the entire mechanism is operated from the main shaft with the aid of gears and cams.

The construction and combination of parts are as hereinafter described and claimed.

Figure 1 is a side elevation of the machine. Fig. 2 is a front elevation of the same. Fig. 3 is a reduced end elevation of cylinder, platen, inking-rolls, and certain other co-operating parts. Fig. 4 is a plan view of the machine. Fig. 5 is a vertical central section of the same.

Between the sides of the frame-work A A of the machine is mounted a D cylinder or drum, B, having about one-fourth of its circumference left flat for the reception of a form of type in its chase. This flat surface C, Figs. 3 and 5, forms the bed of the machine. Through the center of the cylinder D is passed the main shaft D. One end of this shaft takes bearing in one side of the frame-work A, and the other end in a sleeve or boss (not shown) formed on one end of the cylinder B, the sleeve resting in the other side of the frame-work A. The main shaft D, though supporting the cylinder B between the frames A A, is allowed to revolve freely within its bearings.

Between the frames A A and the ends of the cylinder B are fixed the roller-gates E. One of these gates or frames E is keyed to the shaft D, and the other is allowed to revolve freely on the sleeve of the cylinder B, connection between the keyed gate and the free one being made by suitable stays or rods. The roller-gates E carry the inking and distributing rollers 1 2 3 4 5 around the circumference of the cylinder B, and also across the type on the bed C. The requisite extension and retraction of these rollers in passing round the cylinder B are provided for by springs F. When the press is at work the bed C is maintained rigidly vertical by means of the lever G, keyed upon the sleeve of the cylinder B. The lever G is locked in either of two positions (shown in full and dotted lines, Fig. 5) by means of a plate, G′, which may be raised by a cam, G^2, and is normally held down by the tension of springs G^3, that encircle vertical rods fixed in the frame.

The platen H is mounted on an axis, H′, carried in sliding blocks H^2, which run in grooves I, formed in the frames A A. The slots I cause the platen H to advance to the impression in perfect parallelism, and also turn the platen H back to receive the sheets to be printed. In order to operate the platen H, as described, and also to give a pause or rest to the said platen for feeding the sheets, we make the side levers or draw-bars, J J′, in two parts jointed at K. The throw of the crank L, Fig. 1, is also increased more than would be necessary if the levers J were not jointed. This increased motion is employed in turning the platen H over by means of the joint K, and thus producing the exact motions required without resorting to cams.

The draw-bars J are not connected to the axis H′ of the platen H, as is usual in such machines, but by means of the links or levers J′ are made to take hold of a shaft, M, which shaft sustains the force of the impression.

To provide for ready adjustment of pressure on the form, the shaft M is formed with eccentric ends, and is turned on its axis to reduce or increase the pressure by the lever N and adjusting-screw N′.

The sheets are held on the platen H by frisket-arms O, which may be operated by a pin on the frame-work; but we prefer to use the simple lever P, which, forming part of a parallel motion, (indicated at *a b c d*, Fig. 3,) maintains the frisket-arms O constantly vertical. For convenience of adjustment one end of the lever P is provided with a notch to adapt it for temporary attachment to a stud on an arm, *r*, that is fixed on the sliding block H^2. The lever may therefore be disconnected and the arms O allowed to rest on the platen H in any position.

The bed C may be moved into a horizontal position by means of the lever G, as shown in dotted lines by Fig. 3.

Ink is supplied to the cylinder B by means of the large roller 5, Fig. 3. The smaller roll-

ers 1 2 3 4 take ink from the cylinder B and deposit it upon the form on the bed C. The roller 5 is itself supplied with ink by being lifted from the cylinder B by a raised pathway when opposite the endless apron Q, which apron Q takes ink from the doctor-roller R. The roller 5, Figs. 4 and 5, is formed with a spiral groove upon its surface, so as to lay the ink upon the cylinder B in diagonal lines, which said diagonal lines are immediately recrossed by the rollers 1 2 3 4 traveling in right lines around the cylinder B. We thus induce perfect distribution of the ink upon the cylinder B.

The quantity of ink may be readjusted to the work in hand by four methods: First, the apron Q may be advanced nearer to the cylinder B by means of a screw, *g*, Fig. 4, which slides the apron Q and the roller R upon their frame-work, and thus causes the roller 5 to remain longer in contact with the apron Q while traversing the cylinder B; second, the knife of the ink-box may be set so as to allow of more or less ink being delivered to the apron Q; third, the roller R is moved through a variable distance by means of the ratchet S and adjustable disk-crank T and their connections; fourth, one, two, three, or four rollers may be used at will.

It has hitherto been usual to provide a brake to arrest the momentum of the fly-wheel in case of accident or other need.

We now effect a complete severance of the machine from the fly-wheel, causing instant stoppage of the machinery while the fly-wheel continues to revolve.

U is the fly-wheel; V, the pulley for driving by power; W, the treadle, which, being connected with the friction-clutch plates or levers X, causes them to grasp or release the fly-wheel U at will. The hub portion of the latter presents a wood surface to said clutch-lever. They work in contact with an adjustable cone, Z, whose base has parallel sides, on which the levers rest after being forced open by the conical portion—a construction by which all side pressure from the fork of the clutch is avoided.

Having thus fully described our invention, we claim as new and desire to secure by Letters Patent—

1. The combination, with the stationary cylinder B, rotary shaft D, the vertically-arranged apron Q, and roller R, of the series of rollers 1 2 3 4 5, one of which is spirally grooved, and the roller-gates E E, one of which is fast on said shaft, so that the rollers are carried around between the apron and cylinder, as shown and described.

2. The combination, with the cylinder B, having a type-bed, C, and mounted loose on its supporting-shaft, of the lever G for adjusting said cylinder, and the spring-pressed plate for locking the lever, as shown and described.

3. The combination of the rod or lever P with the frisket-arms O and a platen, H, said lever being adapted for attachment to the frame at a fixed point, as shown and described, for the purpose specified.

HENRY PATTMAN TRUEMAN.
JOHN GEORGE NEW.

Witnesses:
C. G. TRUEMAN,
EDWD. BAKER.