No. 697,285. Patented Apr. 8, 1902.

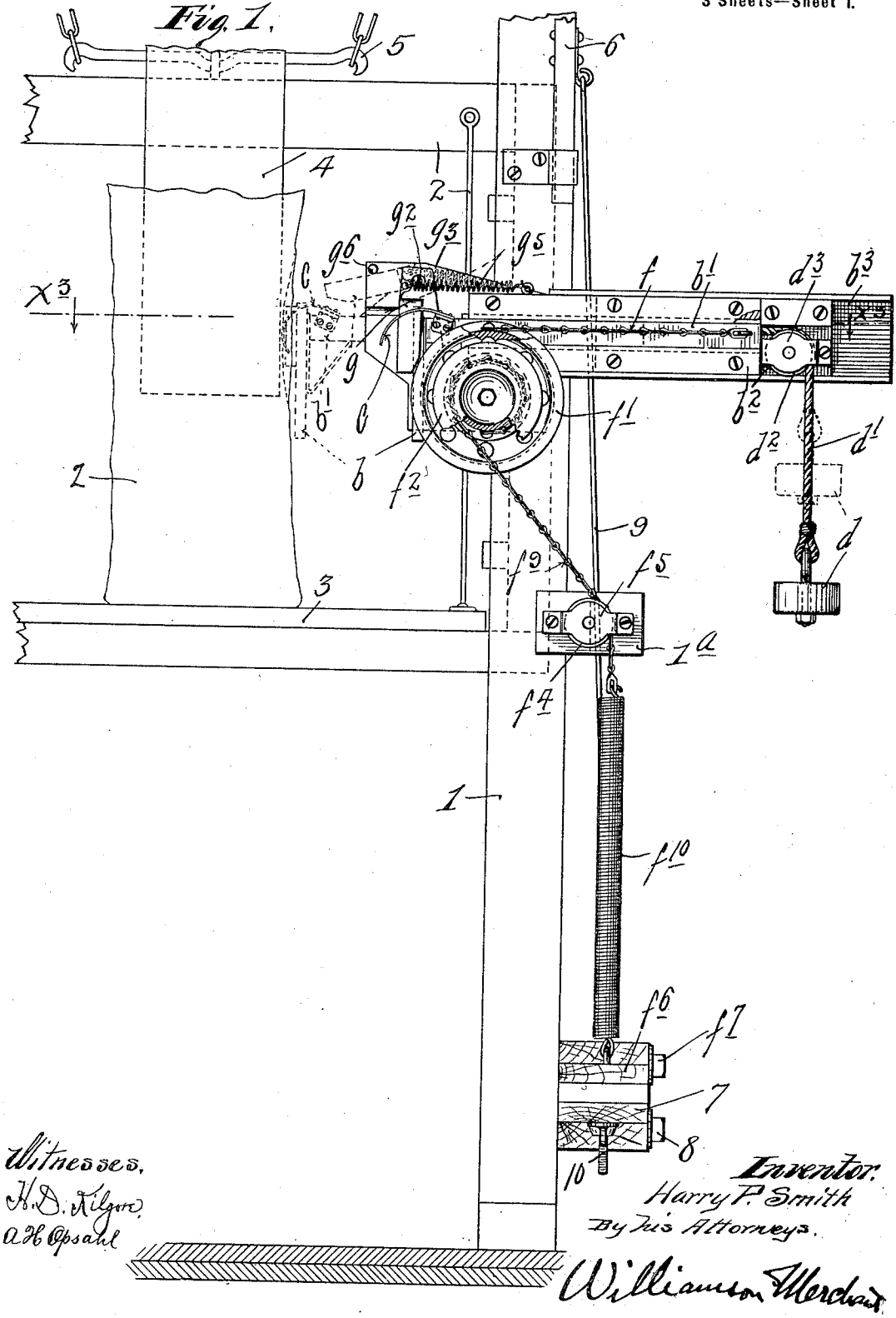
H. P. SMITH.

PRINTING ATTACHMENT FOR FLOUR PACKERS.

(Application filed Oct. 28, 1901.)

(No Model.) 3 Sheets—Sheet 1.

Fig. 1.



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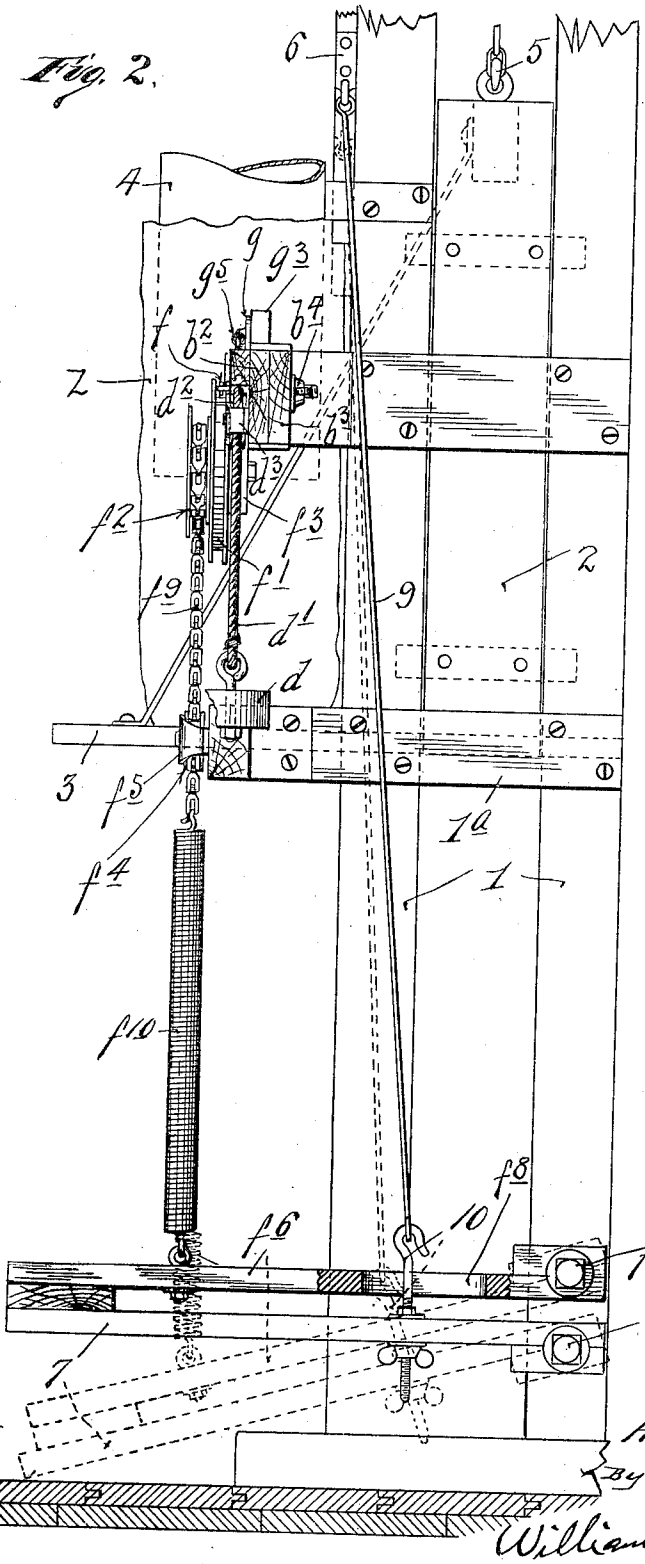
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Fig. 2.



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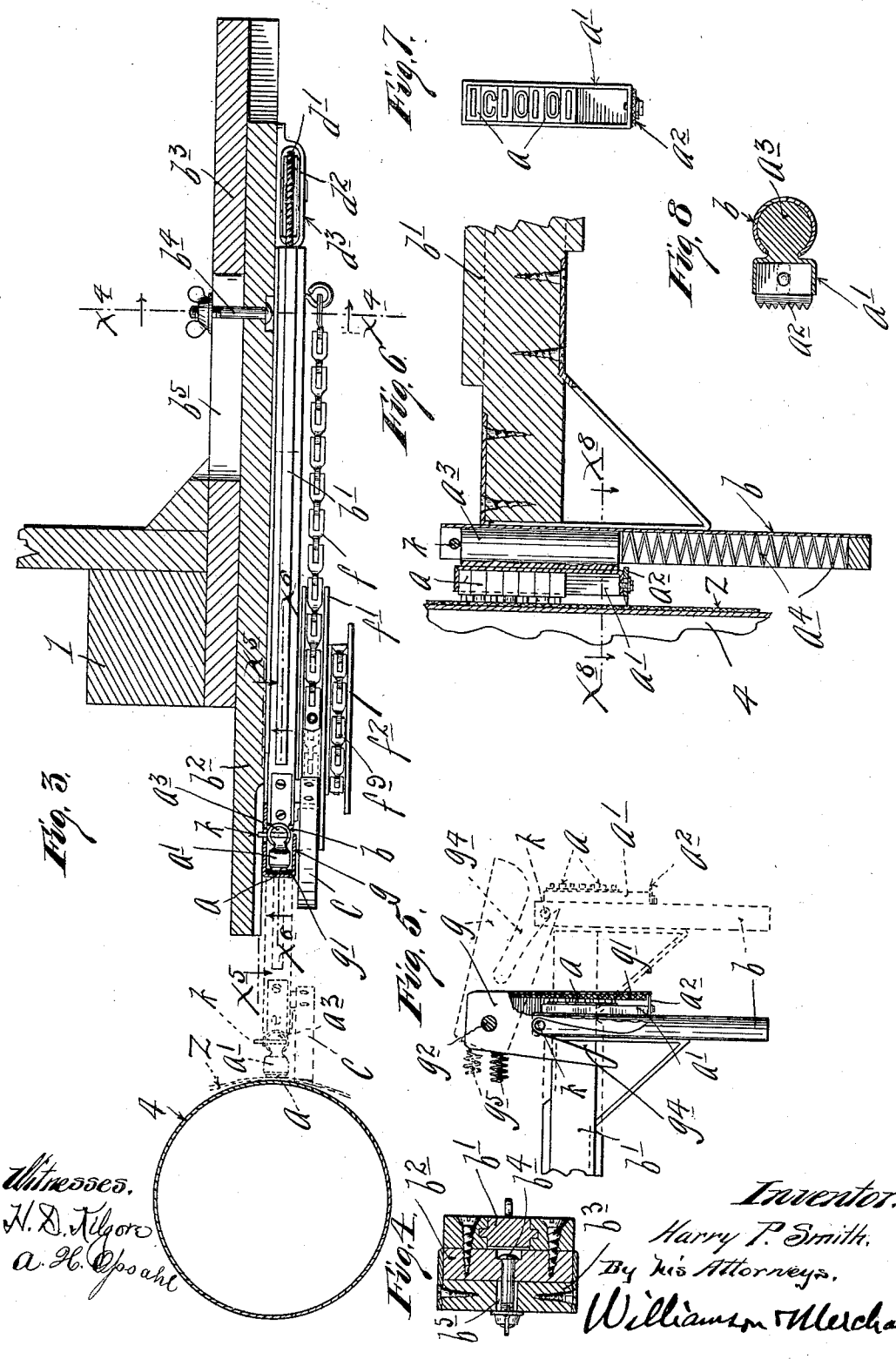
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(No Model.) 3 Sheets—Sheet 3.



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UNITED STATES PATENT OFFICE.

HARRY P. SMITH, OF MINNEAPOLIS, MINNESOTA.

PRINTING ATTACHMENT FOR FLOUR-PACKERS.

SPECIFICATION forming part of Letters Patent No. 697,285, dated April 8, 1902.

Application filed October 28, 1901. Serial No. 80,172. (No model.)

To all whom it may concern:

Be it known that I, HARRY P. SMITH, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Printing Attachments for Flour-Packers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to flour-packers, and has for its object to provide in connection therewith a simple and efficient printing device for marking or stenciling the sack or barrel while the flour is being packed therein, which printing device is operated automatically or by a manipulation required to throw the packer into action.

To the above ends the invention consists of the novel devices and combinations of devices hereinafter described, and defined in the claims.

Flour-packers such as in general use in flour-mills usually comprise a packer-tube which is adapted to enter the sack or barrel, spiral packers working within the packer-tube, a vertically-movable carriage or platform adapted to support the sack or barrel and to be depressed under the action of the packers as the sack or barrel is being filled, and a foot-actuated trip or controller for throwing the packer into action.

In accordance with my invention I provide a printing device which is adapted to be thrown into action automatically in one way or another, so that it will be operated with a properly-timed action by a manipulation required to operate the packer.

The invention is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Figure 1 is a front elevation showing a portion of an ordinary flour-packer such as above indicated having applied thereto one of my improved printing devices. Fig. 2 is a side elevation of the parts shown in Fig. 1. Fig. 3 is a horizontal section on the line x^3 x^3 of Fig. 1. Fig. 4 is a vertical section on the line x^4 x^4 of Fig. 3. Fig. 5 is a detail in vertical section on the line x^5 x^5 of Fig. 3, some parts being broken away. Fig. 6 is a detail in vertical section on the line x^6 x^6 of Fig. 3, some parts being broken away. Fig. 7 is a face view of the type-wheel and type, and Fig. 8 is a horizontal section on the line x^8 x^8 of Fig. 6.

Of the parts of the packing device the numeral 1 indicates the framework.

The numeral 2 indicates the vertically-movable carriage, having a platform 3.

The numeral 4 indicates the packer-tube in which spiral packers (not shown) usually work.

The numeral 5 indicates portions of the carriage-supporting connections. The packer-tube 4, which is fixed, is supported from the main frame 1 in the ordinary way.

The numeral 6 indicates a trip-bar, which when depressed throws the packing-screws into action.

The numeral 7 indicates a trip-lever or treadle, which is pivoted to the main frame at 8 and connected to the trip-bar 6 by a rod 9 and adjustable hook 10.

The parts just above described are of ordinary standard construction, which for the purposes of this case need not be further described. Furthermore, these details may be greatly varied so far as my invention is concerned. As to the operation of these parts attention is here simply called to the facts, all of which are well known to persons familiar with flour-packers—to wit, when the trip-lever 7 is pressed downward by the foot the packing-screws or other devices will be thrown into action and will continue to act to feed and pack the flour until the proper amount is approximately reached, whereupon the said packing devices will be automatically thrown out of action by means not illustrated and which has no direct bearing on my invention.

My improved printing device will now be described. The type a are held in a vertically-disposed type head or holder a', which for an important purpose to be hereinafter noted is provided at one end or at some other suitable point with a serrated or toothed blade or flange a^2, which is preferably removable. The type head or holder a' is provided at its back with a nearly cylindrical body portion a^3, which works vertically against a spring a^4

in a slitted sheath b, which in turn is rigidly supported by and carried at the forward end of a horizontally-movable slide b'. The slide b' slides in a channeled guide-bar or keeper b^2, which in turn is shown as adjustably secured to a fixed keeper-guide b^3 by means of nutted bolts b^4, which work through slots b^5 of said keeper b^2, as best shown in Figs. 3 and 4. The keeper b^3 is rigidly supported from the frame 1 of the packer.

By the above means the type-head a' is mounted for horizontal movements, so that the type a in the illustration given will be thrown into and out of contact with that portion of the sack z which is pressed against the packer-tube 4, which packer-tube is thus made to serve as a platen. To insure the pressing of the sack against the tube 4 before the type are thrown against the same, a curved pressing finger or spring c is secured on the inner end of the slide b'. These springs may take various forms and may be secured for movement with the type-head a' in different ways.

The slide b' is retracted or drawn outward by weight d, supported by a cord d', which runs over a guide-pulley d^2 and is attached to said slide b'. Said guide-sheave d^2 is shown as mounted in a bracket d^3, secured to the outer end of the guide-bar b^2.

f indicates a chain which is secured at one end to the slide d' and at its other end to the large member f' of a double sheave f' f^2, which sheave is suitably journaled on a bearing f^3, shown as supported from the guide b^3.

f^4 is a guide-sheave shown as mounted in a bearing f^5, supported by a transverse beam 1^a of the main frame 1.

f^6 indicates a supplemental trip-lever which is pivoted to the main frame at f^7 just above the primary trip-lever 7. This lever is shown as provided with a slot f^8, through which the adjustable lever connection 10 works freely.

f^9 indicates a chain the upper end of which is attached to the smaller sheave-section f^2 and the lower end of which is passed over the sheave f^4 and is connected to the upper end of a coiled spring f^{10}, the lower end of which spring is attached to the supplemental trip-lever f^6.

For inking the type a after each impression an ink-pad holder g, having an ink-pad g', is pivoted at g^2 to a flanged head g^3 on the guide-bar b^2. In the upper end of the sheath b is a pin k, which limits the upward movement of the type-head a', the ends of which project and work in crotches g^4, cut in the flanged sides of the pad-holder g. A spring g^5, attached to the pad-holder g in the vicinity of its pivot and connected at its other end to the guide-bar b^2, yieldingly holds the pad-holder in either of its extreme positions. The upward movement of the pad-holder is limited by a stop-pin g^6, pivoted from the said head g^3, as best shown in Fig. 1.

Operation. The operation of the device is as follows: As soon as the bag is properly positioned around the packer-tube 4 the operator steps upon the upper section f^6 of the compound trip-lever 7 f^6 and forces the same into the position indicated by dotted lines in Fig. 2. This single action performs two functions—to wit, it throws the packer screws or devices into action and throws the type-head a' into the position indicated by dotted lines in Figs. 1 and 3, in which position the type a are pressed against the bag to stamp the same. The bag, it will be remembered, is at such times stretched tightly against the packer-tube 4 by the spring-finger c. Under this inward movement of the type-head a' and bar b' the pin k, acting on the pad-holder g, forces the same into its opened position, as indicated by dotted lines in Figs. 1 and 5. As soon as the impression is made the operator removes his foot from the upper trip-lever section f^6 and the weight d immediately throws the slide b' and type-head a' back into normal positions, under which return movement the pin k throws the pad-holder g back to its normal position and carries the ink-saturated pad g' against the type a. The spring g^5 holds the said pad tightly pressed against the type while the parts are in normal position. When the packing devices are thrown into action, the flour is rapidly forced into the sack, and where small sacks are being filled they commence their downward movement almost instantly. Blurring of the print under the above action is prevented as follows: When the type-head is forced inward to cause the type to produce the print, the serrated flange a^2 is pressed against the sack, so that when the sack begins to move downward while the type are pressed against the same the type-head a', with its type, is carried downward with the sack against the tension of the spring a^4, so that the type are not permitted to slide on the sack. As is obvious, as soon as the type are moved away from the sack the spring a^4 becomes operative to restore the type-head to its normal or uppermost position, as limited by the stop-pin k. The spring f^{10} simply prevents too severe strains from being thrown onto the type-head and its operating connections in case the operator should step heavily and quickly onto the trip-lever f^6. When the operator steps from the trip-lever f^6, which he should do very quickly after the print is made, said lever f^6 is free to return to its normal position as the type-head and its bar b' are restored to normal positions by the weight d. The trip-lever 7 will follow the lever f^6 back to its normal position after the sack has been filled, which latter action is accomplished in the ordinary way under the action of ordinary devices, (not shown,) which cause the return movement of the trip-bar 6.

From the foregoing it will be seen that the printing device requires no special attention from the operator, but is operated at the proper time by one and the same action, which has hitherto been required to trip the packing devices into action. Hitherto the

sacks have been stamped by hand device, which has consumed considerable of the time of the operator. By the addition of my improved device greater speed in packing has been attained with less expenditure of the energy of the operator.

The sacks or barrels are usually printed or stamped with characters which indicate the particular mill from which it came, the packer by whom it was packed, and the date on which it was packed.

The device above described is capable of many modifications within the scope of my invention.

The combination, with packing devices and a printing device, of a common trip or controller adapted to be actuated at will to throw both of the said devices into action I consider broadly new and within the scope of my invention as herein set forth and claimed.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. The combination with a flour-packer and a coöperating printing device, of a single trip or controller arranged to be actuated, at will, to throw both of the said devices into action, substantially as described.

2. The combination with a flour-packer, of a printing device, and a common foot-operated controller or trip for throwing both the said devices into action, substantially as described.

3. The combination with a flour-packer having a packing-tube and a movable support for the sack, of a printing device having a type-head which is movable to and from the printing position and has a limited movement in the direction of the travel of the said support, substantially as described.

4. The combination with a flour-packer having a packing-tube and a movable support for the sack or barrel, of a printing device having a type-head mounted for movement to and from the printing position and having a limited movement in the direction of the travel of the said support, and a common trip or controller for throwing said packer and printing device into action, substantially as described.

5. The combination with a flour-packer and a printing device, of a two-part trip, a single action of which, throws both the said devices into action and one section of which is movable back to normal in advance of the other, to permit the printing device to be restored to normal position before the sack has been filled, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

HARRY P. SMITH.

Witnesses:
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F. D. MERCHANT.