E. M. COBB.

AUTOGRIP FORM TRUCK.

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1,103,486.

Patented July 14, 1914.

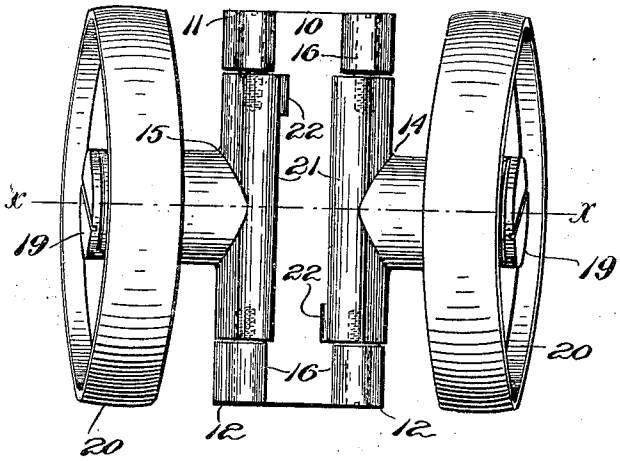


Fig. 1.

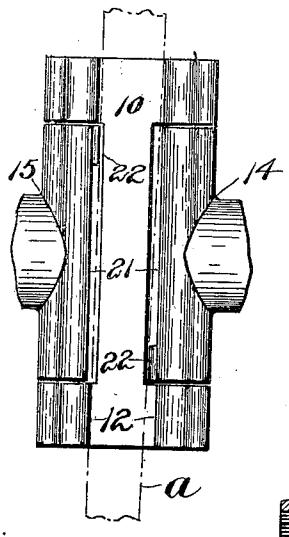


Fig. 4.

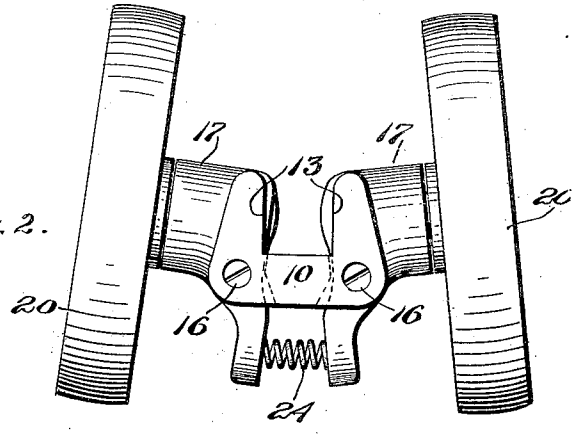


Fig. 2.

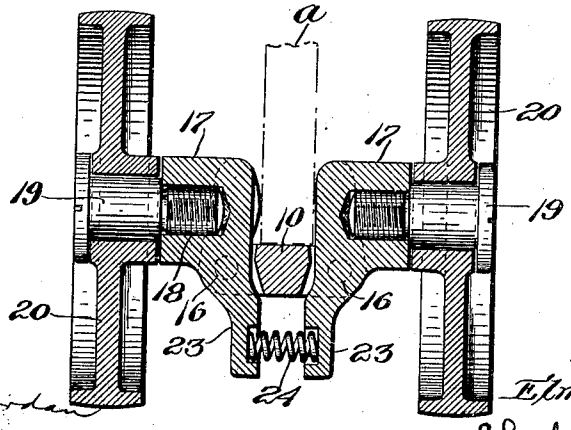


Fig. 3.

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AUTOGRIP FORM-TRUCK.

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To all whom it may concern:

Be it known that I, ELMER M. COBB, a citizen of the United States, and resident of South Portland, county of Cumberland, State of Maine, have invented an Improvement in Autogrip Form-Trucks, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts in each of the several views.

The present invention relates to trucks more especially for printers' uses and while having other and more general fields of usefulness it is well adapted for handling printers' forms or chases to move them conveniently from one part of a printing office to another. The trucks for this purpose that have been heretofore used, have generally been of a type wherein the form or chase would rest loosely upon the truck with a consequent liability of disarrangement or displacement of the truck under the chase as it is moved along and a consequent likelihood of accident and trouble.

The prime object of the present invention is to provide an improved truck wherein a seat is provided on which the chase may rest, and when so resting is automatically gripped and held securely in the position where it is placed so long as it rests on the truck, the construction being such that the heavier the form, the greater will be the gripping or clamping pressure exerted thereon.

According to my invention means is provided whereby the form as it rests on the truck is gripped automatically at definite substantially separated points between a fixed wall or jaw and a movable swinging jaw wherein forms presenting uneven or tapering surfaces may be securely gripped and wherein the grip or hold of the jaws upon the form is not liable to be broken or released by the swaying or swinging movement from side to side of the chase or form while being conveyed along over rough or uneven floors or surfaces. To attain this end I preferably provide fixed abutments or lugs at opposite sides of the respective ends of the form seat on the truck body, and arranged for coöperation therewith, movable jaws having form gripping portions adapted to localize the gripping action of each jaw adjacent and opposite a fixed abutment or jaw at the respective ends of the form seat. It is to be understood that where reference is made to a printer's form or like expression as the article to be handled by the present truck, this is merely illustrative and intended to typify any article adapted to be handled and conveyed by the truck construction shown.

The invention will be better understood from the following detailed description taken in connection with the accompanying drawings and will be thereafter pointed out in the appended claims.

Referring to the drawings: Figure 1 is a plan view of my improved truck; Fig. 2 is an end elevation thereof; Fig. 3 is a central vertical section on line x—x of Fig. 1; and Fig. 4 is a plan view with parts broken away, showing the special adaptability of the device for clamping irregular or tapering work.

The body of my improved truck is indicated at 10 with a flat normally horizontal top on which the form may rest and with pairs of upstanding lugs 11, 12 at its ends, the lugs of each pair being spaced apart a distance to permit the chase to be inserted therein, the inner vertical walls 13 of these lugs guiding the chase to proper seating position. The intermediate portion of the body 10 between the upstanding lugs 11, 12 is cut away at each side to afford space for positioning blocks 14, 15 which are pivoted on pivot pins 16 journaled in the body, so as to swing between the end lugs 11, 12. These blocks 14, 15 serve both as axle carrying elements for the truck wheels and also as clamping jaws for automatically gripping the chase when it is rested on the body. For this purpose the blocks 14, 15 are formed with lateral hubs 17 intermediate the length thereof, these hubs having oppositely facing sockets 18 in which the threaded ends of the axles 19 of wheels 20 are screwed.

The threaded ends of the axle 17 are preferably reduced to form shoulders that abut against the outer faces of the hubs 17 to effect a clamping action on the threads and locking the axles against displacement when set up.

It is to be observed that the pivot pins 16 are below the hubs 17, and I also form as a part of the blocks 14, 15 parallel jaws 21 that likewise extend up from the pivot points 16 substantially filling the space endwise between the lugs 11, 12, and having a range

of swinging movement laterally so that when opened they will permit a printer's chase to be inserted therebetween to rest on the body 10, but when swung in they will press upon and grip the sides of the chase strongly to hold the same from displacement relative to the truck.

For getting a better hold on the sides of the chase which is indicated at *a* in dotted lines, and especially to permit the secure clamping of irregular or tapering forms, I preferably provide projecting ribs or bulges 22 on the jaws 21, these bulges being formed at opposite ends of the respective jaws. Thus these projections 22 constitute the real effective clamping portion of the jaw and the form is hence clamped essentially at two substantially separated points, *i. e.*, between the projections 22 at the end of the respective jaws and the opposite lugs or backing pieces 11, 12, respectively. Thus as best shown in Fig. 4, the truck is clamped to the form securely by the grip thus obtained at these substantially separated points even though the sides of the form may be irregular or tapering, since there is sufficient clearance afforded by the bulges 22 so that irregularities or small projections in the intermediate portion of the form sides will not contact with the rest of the jaw faces in a manner to permit any pivoting movement or looseness. In other words the gripping action obtained is substantially that of two independent spaced apart clamping means acting at one end of one jaw and at the other end of the other jaw against the adjacent fixed abutment or lug 11, 12 respectively.

As best seen from a comparison of Figs. 2 and 3, the hubs 17 and jaws 21 are relatively so arranged and set that when the jaws are pressed outward with a chase between them, the hubs are substantially horizontal and in alinement, while when the jaws are collapsed the hubs converge somewhat as seen in Fig. 2, the extent of such convergence being determined by the point at which the blocks 14, 15 will strike the sides of the body. It will thus be observed that the hubs 17 with the wheel axles 19 extending therefrom, in conjunction with the jaws 21 all integrally carried on the pivots 16 constitute in effect levers, which, when the wheels rest on the floor cause the jaws to grip the sides of the chase with a force substantially proportional to the weight of the chase; this gripping being not only of a self-acting nature as the chase is rested on the truck, but also self-releasing when it is to be lifted therefrom.

It is desirable to provide means whereby the self-gripping action of the jaws to some extent will be exerted on the chase as it is positioned in its seat on the truck regardless of whether the truck is bearing the weight of the chase or not, and for this purpose I provide the blocks 14, 15 with extensions 23 below the pivots 16 and fit between these extensions a compression spring 24 which exerts its pressure to move these extensions apart and thus press the jaws 21 together. In this way the truck may be applied to the edge of the chase in proper position to bear the weight thereof before it is rested on the floor to be conveyed to its destination.

I do not desire to be limited to the precise details of construction or combination of elements shown, since these can be varied without departing from the spirit of the invention and I therefore refer to the appended claims rather than to the foregoing description to indicate the scope of the invention.

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

1. A device of the kind described, comprising a truck body having pairs of fixed upstanding lugs at its ends spaced apart to receive a form between them, and blocks pivoted for action between said lugs, equipped with axles having wheels fitted thereto and also with clamping jaws extending up from the pivot points in position to press upon the sides of a form as it is positioned on the body between said lugs, said jaws having one at one end and the other at its other end projecting portions adapted to co-act with an opposite end lug constituting a fixed jaw to grip the form at definite and localized separated points.

2. A truck of the kind described, comprising a body having a wheel base and provided with a central seat to receive a form, upstanding lugs constituting fixed jaws carried by said body at opposite sides of said form seat and spaced apart along the length thereof, and movable clamping jaws having form engaging portions adapted to co-act with said fixed jaws respectively to grip a form at localized and definite spaced apart points as it rests on said seat for the purpose stated.

3. A device of the kind described, comprising a truck body carried on wheels, said wheels having pivotal mountings permitting limited swinging movement transversely of the truck, said mountings being also formed with clamping jaws to engage a form on the truck arranged to be actuated by the weight of the form, and spring means for acting on said mountings to cause said jaws to grip a form therebetween independently of the gravity action of the form.

4. A device of the kind described, comprising a truck body carried on wheels, said wheels having mountings pivoted to permit limited swinging movement transversely of the truck, said mountings being formed with jaws for clamping a form resting on the truck by the weight thereof, and also having

depending spaced apart extensions, and a spring mounted between said extensions for acting on said mountings to cause said jaws to press against a form held therebetween independently of the gravity action of the form.

5. A truck comprising a body, and spaced apart clamping means consisting in a jaw fixed to the body and a relatively movable jaw and carried thereby, each of said clamping means being automatically operative to clamp at separated points irregular or tapering surfaces resting on the truck and hold the same automatically gripped rigid with the truck.

6. A truck comprising a body mounted on wheels, said wheels having mountings for limited pivotal movement transversely of the truck, and spaced apart clamping means each consisting in a jaw fixed to the body and a relatively movable jaw connected with the respective wheel mountings and operative to clamp at separated points irregular or tapering surfaces resting on the truck and hold the same automatically gripped rigid with the truck.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ELMER M. COBB.

Witnesses:
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."