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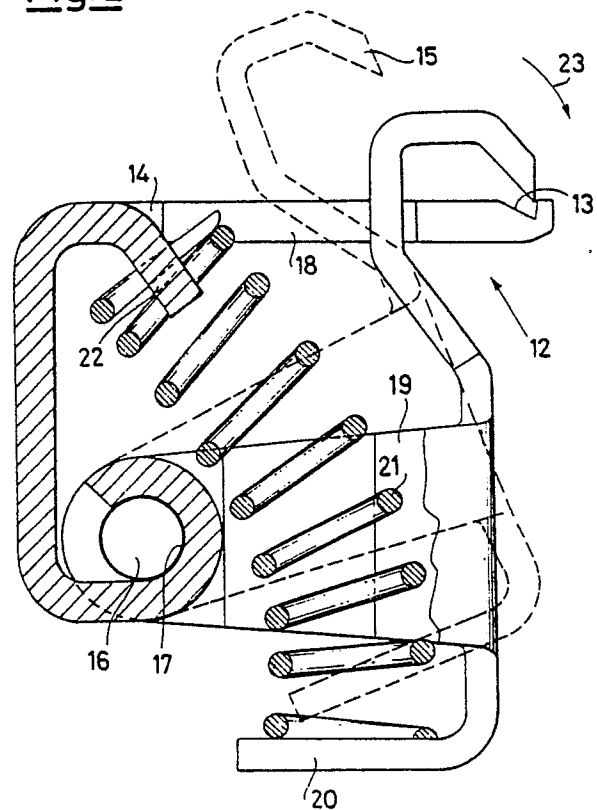
# EUROPEAN PATENT APPLICATION

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**I-20123 Milano(IT)**(54) **Chain link with a plate featuring a pincer, for haul-off of a sheet material.**

(57) A chain link of the type in which a plate is provided with a pincer for hauling-off a sheet material comprises a bracket extending laterally in an overhung fashion from the said plate and forming in its upper portion a fixed jaw which cooperates with a movable jaw which is pivoted to the said plate and extends through an aperture in the said bracket; a spring is arranged between the said fixed and mobile jaws to thrust the movable jaw supportively against the fixed jaw in order to lock the said sheet material between the jaws.

**Fig.2**



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## LINK WITH A PLATE FEATURING A PINCER, FOR HAUL-OFF OF A SHEET MATERIAL

The present invention relates to a chain link, one plate of which featuring a pincer, which is economical to manufacture and use and which is intended for the purpose of hauling-off sheet material, particularly but not solely a plastic film.

As is known to persons with ordinary skill in the art, downstream of a plastic film extruder provision must be made for means that will haul-off the extruded film to a subsequent work-station, at the same time keeping the film appropriately taut.

For such purpose it is known to use chain type haul-off devices disposed laterally to the extruded film and featuring means adapted to grip the said film and haul it off in a forward direction. The said haul-off means have to be constructed so that they permit, initially, the laying of the film on the chain and, subsequently, the positive engagement of the said film for its haul-off.

The object of the present invention is to embody a device that will satisfy the aforesaid requirements and is simple and economical to manufacture and highly dependable in use.

This object is attained by a chain link of the type in which a plate is provided with a pincer for hauling-off a sheet material, wherein: a bracket extends laterally in overhung manner from the said plate, forming in its upper portion a fixed jaw which cooperates with a movable jaw pivoted to the said plate and extends through an aperture in the said bracket, there acting between the said fixed and mobile jaws a spring which thrusts the movable jaw supportively against the fixed jaw in order to lock the said sheet material between them.

The structural and functional characteristics of the invention, and its advantages over the known art, will become more apparent from an examination of the following description, referred to the appended drawings, which show an example of a chain link embodied in accordance with the innovative principles of the invention. In the drawings:

- Figure 1 is an enlarged perspective view of the chain link in question; and

- Figure 2 is an enlarged vertical section illustrating the same link as in Figure 1 after assembly, where the movable jaw of the pincer is shown in the open position by a dashed line.

With reference to the drawings, the chain link according to the invention is indicated overall by 10 and one of its plates 11 features a pincer 12. The pincer 12 comprises a fixed jaw 13 on a bracket 14 formed enbloc from the plate 11, and a movable jaw 15 pivoted by means of a pin 16 to a seat 17, the movable jaw also being formed enbloc from the plate 11 by the folding back on an extremity thereof.

As can be clearly seen from the appended drawings, the movable jaw 15 extends through an aperture 18 in the bracket 14 and is embodied in a single piece comprising a fork 19, which is pivoted to the seat 17 through the agency of the pin 16, and a tongue 20 folded back under the fork 19.

The numeral 21 indicates a spring passing through an oversized section of the fork 19 and acting between the tongue 20 and tooth 22 which is inclined from the bracket 14. The spring 21 provides thrust to maintain the movable jaw 15 in the position shown by a continuous line in Figure 2. For this purpose, and as is clearly shown in the Figures, the spring 21 is retained laterally and guided by the cheeks of the fork 19 in order to prevent it from straying from the compressed working position.

The opening of the movable jaw 15 in relation to the fixed jaw 13 so as to be in the open position shown by dashed lines in Figure 2, is effected by a cam means (not shown) acting on the tongue 20, against the action of the return spring 21, so as to cause the movable jaw 15 to rotate about the pin 16 in the direction of the arrow 23. It is noteworthy that the operating end of the jaw 15 moves away from the fixed jaw 13 with a rearward component of motion so that the edge of the film to be gripped can rest itself on the fixed jaw with a vertical movement and thus without interfering with the movable jaw. This means that extruded film, or other sheet material, can be laid on the brackets 14 of the chain type haul-off devices positioned proximally to the longitudinal sides of the film, or other sheet material, when the movable jaws 15 are thrust into the open position by the aforesaid cam means, after which the jaws 15 can be closed in a spontaneously automatic manner by relinquishment by the said cam means, so as to lock the sheet material on the fixed jaw 13.

There is in this manner attained the object referred to in the introductory part of the specification, i.e. the embodiment of a haul-off device of remarkable simplicity and economy and highly dependable in use.

### Claims

1) Chain link of the type in which a plate is provided with a pincer for hauling-off a sheet material, wherein there are comprised: a bracket extending laterally in an overhung fashion from the said plate and forming in its upper portion a fixed jaw which cooperates with a movable jaw which is pivoted to the said plate and extends through an

aperture in the said bracket, there acting between the said fixed and mobile jaws a spring which thrusts the movable jaw supportively against the fixed jaw in order to lock the said sheet material between them.

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2) Link as described in claim 1, wherein the said bracket is formed enbloc from the said plate, from which there is also formed enbloc a seat for a trunnion for the said movable jaw.

3) Link as described in claim 2, wherein the said movable jaw comprises a fork pivoted to the said seat through the intermediary of the said trunnion and, below the said fork, a tongue on which rests an end of the said spring, the opposite end of which is engaged with a tooth folded back from the said bracket, the said spring passing through an oversize section of the said fork, which retains it laterally.

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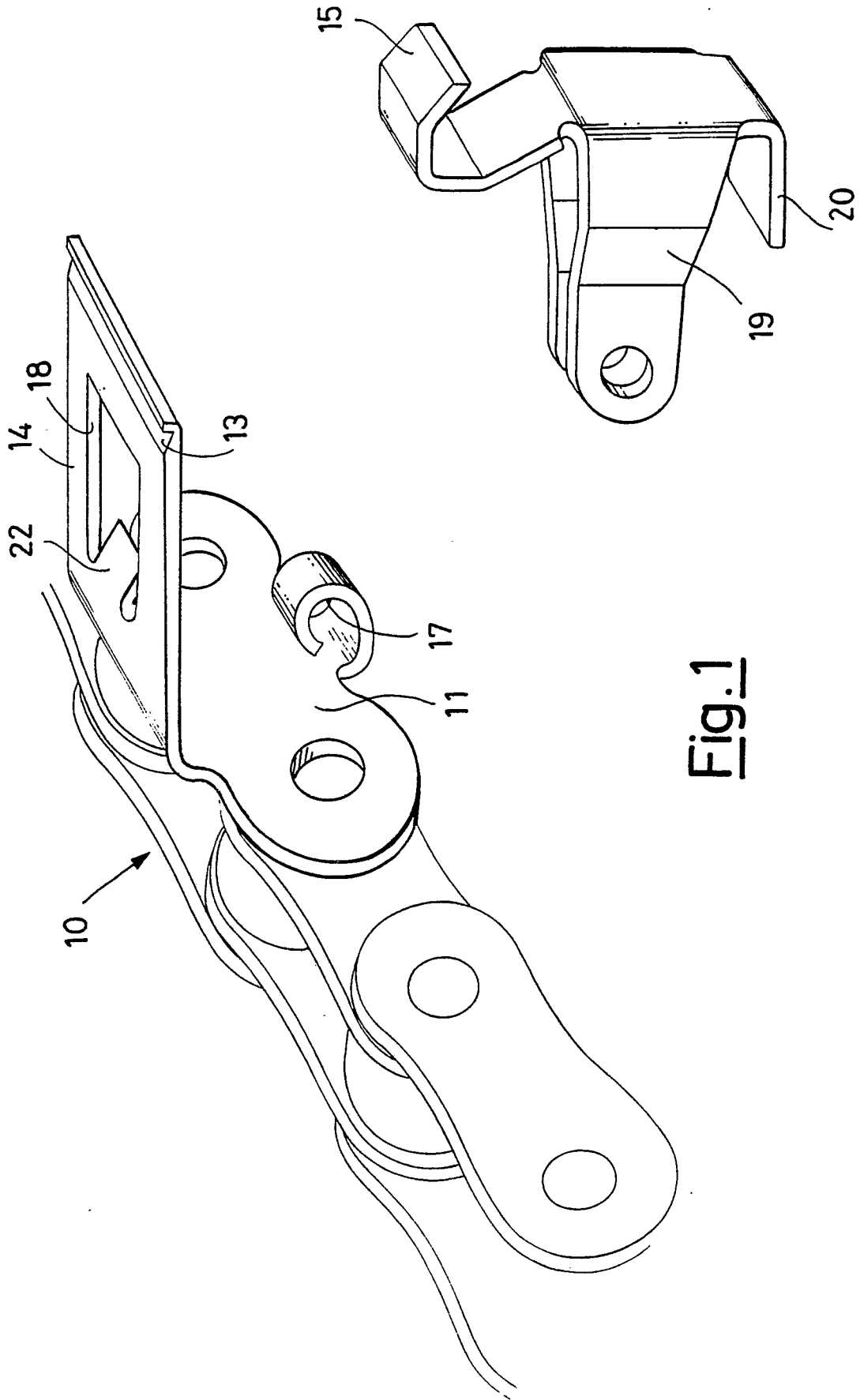


Fig. 1

Fig. 2