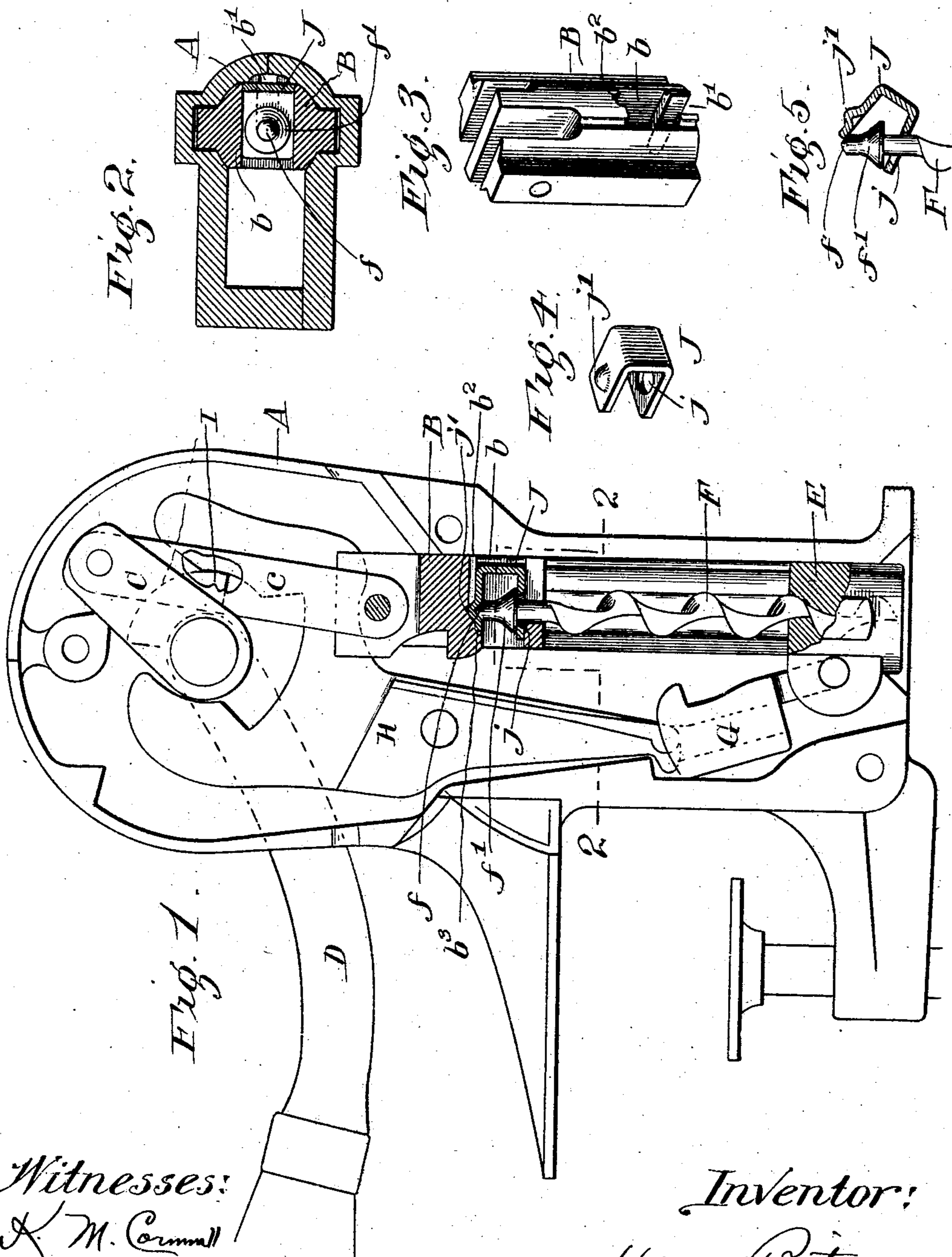


No. 845,608.

PATENTED FEB. 26, 1907.

H. BITNER.
CORK PULLER.

APPLICATION FILED JAN. 20, 1906.



Witnesses:
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UNITED STATES PATENT OFFICE.

HARRY BITNER, OF BERWYN, ILLINOIS, ASSIGNOR TO ARCADE MANUFACTURING COMPANY, OF FREEPORT, ILLINOIS, A CORPORATION OF ILLINOIS.

CORK-PULLER.

No. 845,608.

Specification of Letters Patent.

Patented Feb. 26, 1907.

Application filed January 20, 1906. Serial No. 241,951.

To all whom it may concern:

Be it known that I, HARRY BITNER, a citizen of the United States of America, residing at Berwyn, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Cork-Pullers, of which the following is a specification.

My invention relates to certain new and useful improvements in cork-pullers; and its object is to produce a device of this class which shall have certain advantages, which will appear more fully and at large in the course of this specification.

To this end my invention consists in certain novel features, which are shown in the accompanying drawings as embodied in my preferred form of construction.

In the aforesaid drawings, Figure 1 is an elevation of a cork-extractor embodying my invention, one of the casing-sections being removed and certain portions being shown in central longitudinal section to illustrate the construction. Fig. 2 is a transverse section in the line 2 2 of Fig. 1. Fig. 3 is a perspective view of the corkscrew-carrier. Fig. 4 is a perspective view of the bearing-clip. Fig. 5 is a central longitudinal section through the bearing-clip, showing the manner in which it is secured to the worm.

Referring to the drawings, A is a suitable case in which is non-rotatably and reciprocally guided a corkscrew-carrier B, adapted to be reciprocated by a crank C, moved by an operating-lever or handle D and connected with the corkscrew-carrier by a link or pitman c.

E is a suitable nut threaded to embrace a worm F, swiveled in the corkscrew-carrier, the said nut being reciprocable in the guideway of the case below the corkscrew-carrier. A block G is pivoted to the nut E and is shiftable by means of a lever H, actuated by a cam I on the operating-shaft, the said block being adapted when moved to lock the nut alternately to the corkscrew-carrier and case during the pulling and stripping movements of the device.

All the parts heretofore set forth are old and well known and are fully illustrated in approximately the same relations as herein shown in many prior patents, among them the patent to Charles Morgan, No. 620,949.

My present invention relates particularly to the means for rotatably securing the worm

F in the corkscrew-carrier B, and it will be obvious that this feature will operate as successfully and perform its functions in the same way in any device of this class where the nut serves the purpose of rotating the worm and where the carrier is moved longitudinally relatively with respect to the nut to effect the operation. This will include, obviously, extractors of the long-stroke type—such, for example, as that illustrated in the patent to Ennis, No. 642,691—extractors of the double-stroke type—such, for example, as are illustrated in the patent to Tscherning, No. 728,517—and many others devices.

The particular swiveling mechanism forming the basis of my present invention will now be described. The corkscrew-carrier B is provided with a chamber b, preferably extending from front to back thereof, and the lower wall of said chamber is slotted or notched from one side, preferably from the front at b'. J indicates a spring bearing-clip, preferably of hardened spring-steel. This clip, it will be seen, is U-shaped in form, one of the legs thereof having a perforation j, through which the worm F can be passed, and the other leg having an upwardly-stamped conical bearing-socket j', adapted to receive a conical point f, provided on an enlarged head f' on the upper end of the worm. The worm is placed in position in the bearing-clip as illustrated in Fig. 5—i. e., it is screwed through the perforation until its head bears against the perforated leg of the bearing-clip—when the pointed end of the head is snapped into place in the conical socket. Thereupon the bearing-clip and the head of the worm can be inserted in the corkscrew-carrier, the worm passing through the slot b' and the upwardly-projecting bearing-socket j' passing through a groove b², provided for the purpose in the upper side of the chamber b of the corkscrew-carrier B. Inward movement of the clip and worm is limited by engagement of the clip with a shoulder b³ in the upper face of the chamber b, and when the carrier is placed in the guideway of the case outward movement is prevented by engagement of the clip with the vertical walls of the guideway, as illustrated in Fig. 2.

It will be observed that by the means set forth herein the worm is furnished with a hardened-steel bearing and is also arranged

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so that practically no side thrust against the practically soft material of the corkscrew-carrier can take place. In practice the worms will be furnished to the trade with the clip in place upon them, so that when a worm breaks and a new one is inserted a fresh unworn bearing will be used. It will also be obvious that the worm can be very readily removed and replaced without the use of any special tools or the assembling of any parts which are not furnished in their assembled parts by the manufacturer.

I claim as new and desire to secure by Letters Patent—

1. In a device of the class described, the combination with a longitudinal guide, a corkscrew-carrier, a worm, and a nut threaded to embrace the worm, of a removable bearing for the upper extremity of the worm, adapted to occupy a suitable chamber in the corkscrew-carrier and to be removed from said chamber while secured to the worm.

2. In a device of the class described, the combination with a suitable guide, a relatively movable nut and corkscrew-carrier and a worm threaded in the nut, of a bearing for the upper extremity of the worm, secured to said worm and adapted to be placed in and removed from a chamber provided in the corkscrew-carrier, while secured to the worm.

3. In a device of the class described, the combination with a suitable guide, a relatively movable nut and corkscrew-carrier and a worm threaded in the nut, of a bearing-clip secured to the head of the worm and adapted to be inserted in and removed from a suitable chamber in the corkscrew-carrier.

4. In a device of the class described, the combination with a suitable guide, a relatively movable nut and corkscrew-carrier and a worm threaded in the nut, of a U-shaped bearing-clip having a perforation in one leg through which the worm can be threaded to bring the head thereof within the clip, said clip being adapted to be inserted in place in a suitable chamber in the corkscrew-carrier.

5. In a device of the class described, the combination with a suitable guide, a relatively movable nut and corkscrew-carrier and a worm threaded in the nut, of a U-shaped bearing-clip having a perforation in one leg through which the worm can be threaded to bring the head thereof within the clip, said clip being adapted to be inserted in place in a suitable chamber in the corkscrew-carrier, the worm passing through a notch in the bottom of the chamber.

6. In a device of the class described, the combination with a suitable guide, a relatively movable nut and corkscrew-carrier and a worm threaded in the nut, of a U-shaped bearing-clip arranged to embrace the head of the worm, the upper leg thereof having a socket for the head, said clip being

adapted to be inserted in a suitable chamber in the corkscrew-carrier.

7. In a device of the class described, the combination with a suitable guide, a relatively movable nut and corkscrew-carrier and a worm threaded in the nut, of a U-shaped bearing-clip arranged to embrace the head of the worm, the upper leg thereof having a socket for the head, said clip being adapted to be inserted in a suitable chamber in the corkscrew-carrier, the socket in said clip passing along a groove in the upper face of said chamber.

8. In a device of the class described, the combination with a suitable guide, a relatively movable nut and corkscrew-carrier and a worm threaded in the nut, of a U-shaped spring-clip having a socket in its upper leg and a perforation in line with the socket in the lower leg, the worm being adapted to be threaded through the perforation and snapped into place in the socket, the clip being adapted thereupon to be placed in a suitable chamber in the corkscrew-carrier, the worm passing through a notch in the bottom of the carrier and the socket running along a groove.

9. In a device of the class described, the combination with a suitable guide, a relatively movable nut and corkscrew-carrier and a worm threaded in the nut, of a U-shaped spring-clip having a socket in its upper leg and a perforation in line with the socket in the lower leg, the worm being adapted to be threaded through the perforation and snapped into place in the socket, the clip being adapted thereupon to be placed in a suitable chamber in the corkscrew-carrier, the worm passing through a notch in the bottom of the carrier and the socket running along a groove, and a shoulder arranged to engage the clip to limit its inward movement.

10. In a device of the class described, the combination with a substantially inclosed guideway, a nut and corkscrew-carrier movable in the guideway and a worm threaded in the nut, of a U-shaped bearing-clip embracing the head of the worm and lying within a chamber in the corkscrew-carrier, said clip being held in place by engagement with the walls of the guide.

11. In a device of the class described, the combination with a substantially inclosed guide, a nut and corkscrew-carrier movable in the guide and a worm threaded in the nut, of a U-shaped bearing-clip having a socket in its upper leg and a perforation in its lower leg embracing the head of the worm, the worm being adapted to be threaded through the perforation and snapped into place in the socket, said clip lying in a chamber in the corkscrew-carrier and held in place by engagement with the wall of the guideway, said clip and worm being adapted to be removed sidewise from the corkscrew-carrier.

12. As an article of manufacture a worm
provided with an attached bearing in the
form of a U-shaped clip, one of the legs of
which is perforated for the passage of the
5 worm and the other of which is provided with
a socket for the head of the worm.

In witness whereof I have signed the above

application for Letters Patent, at Chicago,
in the county of Cook and State of Illinois,
this 17th day of January, A. D. 1905.

HARRY BITNER.

Witnesses:

CHAS. O. SHERVEY,
K. M. CORNWALL.