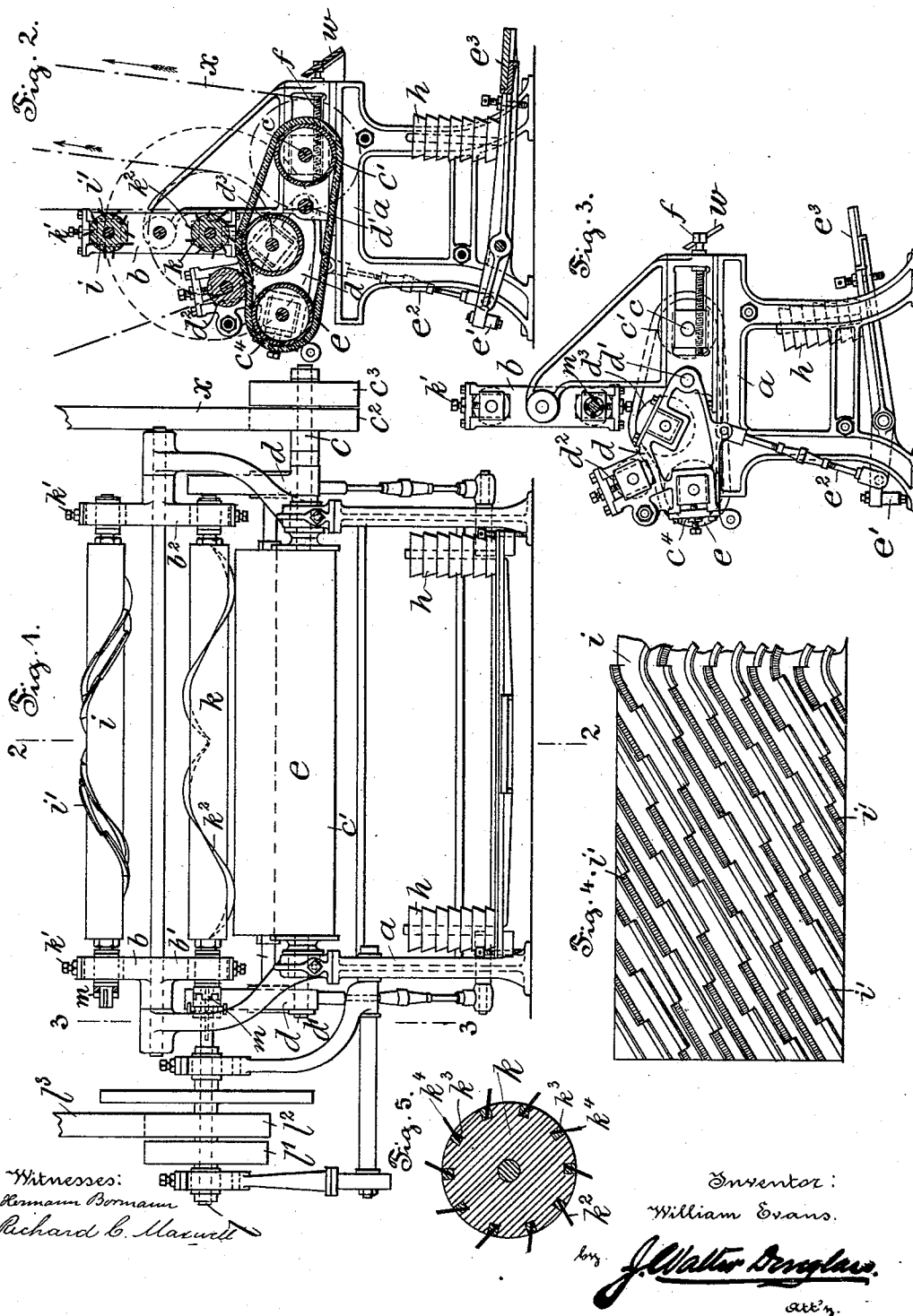


(No Model.)

W. EVANS.
MACHINE FOR TREATING HIDES OR SKINS.
No. 484,146. Patented Oct. 11, 1892.



UNITED STATES PATENT OFFICE.

WILLIAM EVANS, OF PHILADELPHIA, PENNSYLVANIA.

MACHINE FOR TREATING HIDES OR SKINS.

SPECIFICATION forming part of Letters Patent No. 484,146, dated October 11, 1892.

Application filed December 29, 1891. Serial No. 416,490. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM EVANS, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Machines for Treating Hides or Skins, of which the following is a specification.

My invention relates to machines for fleshing, scudding, cleansing, striking out, slicking, skiving, frizzing, unhairing, or laying out hides, skins, or leather of a form in which a knife or slate cylinder is employed in conjunction with an adjustable feed-apron or endless band. It is customary in the art of treating hides or skins to first subject them to the action of a knife-cylinder in order to remove the fleshy substances therefrom and to then subject the partially-treated hides or skins to the action of a so-called "slate-cylinder" in order to thoroughly remove short hair.

The principal objects of my present invention are, first, to provide a durable and efficient machine for thoroughly and completely treating hides or skins; second, to provide such a machine with a knife-cylinder and an independent slate-cylinder arranged in such manner that either one of these cylinders may be rapidly and conveniently brought into operative position; third, to facilitate the adjustment of the table or swinging frame for feeding the hides or skins to the operating-cylinder, and, fourth, to simplify the construction and improve the operation of the slate and knife cylinders of such machines.

My invention consists of a machine for treating hides or skins provided with a slate and a knife cylinder and with means for permitting each of said cylinders to be successively brought into operative position; and my invention further consists of the improvements hereinafter fully described, and pointed out in the claims.

The characteristic features and scope of my invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, and in which—

Figure 1 is a front view of a machine for treating hides or skins embodying features of my invention and showing a knife-cylinder and a slate-cylinder adapted, respectively,

to be shifted into and out of operative position. Fig. 2 is a sectional view on the line 2 2, looking toward the right in Fig. 1, showing the disposition or arrangement of the blades and slates with reference to their respective cylinders. Fig. 3 is a similar sectional view on the line 3 3 of Fig. 1, showing the arrangement of the swinging frame and its accessories for adjusting the feed-apron. Fig. 4 is a top view showing the development of one-half of the slate-cylinder with the respective slates disposed thereon in such manner as that they break joint with one another; and Fig. 5 is a transverse sectional view of the knife-cylinder, drawn to an enlarged scale and, in order to illustrate the knives thereof, inclined to the radial position.

In the drawings, *a* is the main frame of the machine, provided with a rotatable carrier *b* and a feed-shaft *c*. This feed-shaft *c* is provided with an apron-drum *c'* and with fixed and loose pulleys *c²* and *c³*, adapted for engagement with a driving-belt *x*; but other power-transmitting appliances may, if preferred, be employed.

d is a swinging frame journaled at or near one end thereof to a shaft *d'*, ranging transversely of the frame *a*. This frame *d* carries the other apron-drum *c'* and also a guide-roll *d³* and an adjustable pressure-roll *d²*.

e is an endless belt or feed-apron passing around the feed-drums *c'* and *c'*, over the guide-roll *d³*, and under the pressure-roll *d²*. The shafts or journals of the feed-drums *c'* and *c'* and of the pressure-roll *d²* are rotatable independently of each other and are supported in boxes working in slotted ways adapted for their reception, so that the feed-apron *e* may be tightened or loosened and otherwise adjusted by the simple operation of shifting the respective sliding boxes in the required direction, and this result may be readily accomplished by means of screw-bolts *f*, interposed between the framework and the respective sliding boxes. The screw-bolts *f* for operating the apron-drum *c'* are located at the front of the machine and are preferably threaded at the extremities thereof for engagement with tapped orifices in the sliding boxes and are connected by their shanks with the framework of the machine in order

to permit of the adjustment of the boxes without causing the shanks of the screw-bolts to project from the front of the machine, and thus cause inconvenience to the attendant in charge thereof. Ordinarily the feed-apron *e* is kept by gravity in a depressed position, as shown in Fig. 3, with the stop *e'* in contact with the floor. However, the feed-apron *e* may be shifted into a raised position, as shown in Fig. 2, by means of a link *e²* and a centrally-supported treadle *e³* under the control of the operator.

h is a series of weights strung upon a pin projecting from the forward portion of the treadle to counterbalance a portion of the weight of the swinging frame *d*, and thus facilitate the operation of lifting the same into an elevated position, as shown in Fig. 2.

i and *k* are respectively slate and knife cylinders journaled to the arms *b'* and *b²* of the rotatable carrier by means of journal-boxes working in slotted ways and controlled by screw-bolts *k'*, so that the respective cylinders may be adjusted toward or away from the axis of the carrier, as required.

l is a driving-shaft supported in a bracket located upon one side of the machine and provided at one extremity thereof with fixed and loose driving-pulleys *l'* and *l²* for the reception of a driving-belt *l³* and at the other extremity thereof with a friction-clutch *m* for engaging either the slate or knife cylinder shaft. When it is desired to use the knife-cylinder *k*, the carrier *b* is rotated into the position shown in Fig. 1 and the friction-clutch *m* is coupled up with the knife-cylinder shaft. The slate-cylinder *i* may be readily brought into operative position by disconnecting the friction-clutch *m* from the knife-cylinder shaft and turning the carrier *b* through a half-revolution and then connecting the friction-clutch *m* with the slate-cylinder shaft.

The respective knives *k²* of the knife-cylinder *k* are ordinary blades having their shanks *k³* and cutting or operating edges *k⁴* in alignment. However, these blades do not project radially from the periphery of the knife-cylinder, but are inclined with reference to the same so that they approach tangential positions thereto, as shown in Figs. 2 and 5. This construction of the knives *k²* is comparatively inexpensive and prevents accidental cutting or undue scraping of the hide or skin. The slates *i'* are disposed upon the slate-cylinder *i*, Fig. 4, in parallel courses, and the respective slates of all of the courses are arranged to break joint, in order to insure the contact of some of the slates with all portions of the hide or skin. The slates comprising each course are not disposed radially with reference to the periphery of the slate-cylinder, but are inclined successively on opposite sides of the radial position, as shown in Figs. 1, 2, and 4, in order to thoroughly effect the removal of all short hair from the hide or skin. In use the hide or skin is fed over the board or rest *w* upon the feed-apron *e* by the at-

tendant in charge of the machine, and the feed-apron *e* carries the same beneath the knife or slate cylinder, according to which of these members is in operative position. During this operation the apron is shifted into an elevated position by means of the treadle, in order to bring the hide or skin into range of the operating-cylinder.

It may be remarked that, inasmuch as separate power appliances are employed for driving the rotating cylinders and feed-apron, it is possible to feed the latter at a very low rate of speed and to drive the former at a high velocity with the expenditure of a minimum amount of power. Moreover, the entire absence of gearing from the machine not only effects an appreciable saving of power, but also prevents unpleasant noises and undue shock and jar.

Having thus described the nature and objects of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A machine for treating hides or skins, provided with a rotatable carrier, a positively-driven cylinder-shaft, a clutch, and hide-dressing cylinders journaled to said carrier and adapted, respectively, to be brought into connection with said shaft, substantially as and for the purposes set forth.

2. A machine for treating hides or skins, provided with a rotatable carrier, hide-dressing cylinders journaled in said carrier and adapted to be singly and successively brought into operative position, a positively-driven cylinder-shaft, and a clutch connected with said shaft and adapted for engagement with each of said cylinders after it is in operative position, substantially as and for the purposes set forth.

3. A machine for treating hides or skins, provided with a rotatable carrier, a slate-cylinder and a knife-cylinder journaled to said carrier, a positively-driven cylinder-shaft, and a clutch connected with said shaft and adapted to detachably engage the spindle or arbor of each of said cylinders, substantially as and for the purposes set forth.

4. A machine for treating hides or skins, provided with a rotatable carrier having radially-adjustable journal-boxes, a positively-driven cylinder-shaft, a clutch connected with said shaft, and a slate and a knife cylinder mounted in said boxes and adapted to be turned into range of and adjusted into alignment with said clutch, substantially as and for the purposes set forth.

5. The combination, in a machine for treating hides or skins, of a main frame provided with a feed-apron drum and its complementary driving mechanism, a swinging frame provided with a feed-apron drum and journaled at one end thereof to said main frame at a point intermediate of the feed-apron drums, a feed-apron or endless band, and a counter-balanced treadle for lifting said swinging frame to free the feed-apron, substantially as and for the purposes set forth.

6. A machine for treating hides or skins,
provided with a carrier, a positively-driven
shaft, a clutch, and a cylinder provided with
slates arranged in courses obliquely to the
5 radii thereof and the successive slates in-
clined in opposite directions from the radial
lines, substantially as and for the purposes
set forth.

In witness whereof I have hereunto set my
signature in the presence of two subscribing to
witnesses.

WILLIAM EVANS.

Witnesses:

GEO. W. REED,
THOMAS M. SMITH.