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    A Model Millin Germany.

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### COMETS D AND E 1882.

Professor E. E. Barnard, of Nashville, Tenn., on the morn- as soon as retail dealers can be sure of a sufficient regular ing of Sept. 14, near the star Lambda, in the constellation of supply, they will doubtless be ready enough to handle it. the Twins. As observed at the Dudley Observatory on the The sale of such meat in Boston, Philadelphia, and Baltimorning of Sept. 16, its position was right ascension 7 more is already considerable, about 1,500 head of cattle hours 21 minutes 17 seconds; declination north, 15° 16.6'. being shipped daily from Chicago in this way. The refri-This comet is not brilliant, and does not promise to be of gerated meat is not frozen, but merely kept at a temperaspecial interest. As observed at the Naval Observatory, ture low enough to preserve and ripen it. Washington, at 4 A.M. Sept. 19, its right ascension was 7 hours 27 minutes, and declination 12 degrees 41 minutes a combined live stock and banking interest of \$6,000,000, north. It presented the usual appearance of a telescopic have been visiting north and east for the purpose of comet with slight central condensation.

morning of Sept. 18. In the clear atmosphere of Colorado | plates the abandonment of the present practice of driving and Kansas it was plainly visible to the naked eye, from 3° Texas cattle to Kansas to be transported thence alive by was observed in England, at Nice, Italy, and elsewhere. ried all the way in special cars constructed for the purpose. A hazy sky prevented successful observations at our eastern If this plan is largely carried out, it is believed that everyobservatories. On the afternoon of the 19th, as observed at body, except the drovers and local butchers, will be greatly the Naval Observatory at Washington, it was in right ascen- benefited. sion 11 hours 19 minutes 30 seconds, and declination north 8 minutes 40 seconds.

tent. In the telescope the nucleus showed as a confused such as to hold out a promise of its rapid extension.

"Thollon's comet observed at Nice about noon, September 18, 3° west of the sun. The nucleus gives a continuous spectrum, very brilliant and very much extended toward the violet. Both tail and nucleus give the sodium lines extremely brilliant, very sharply divided, and characteristic. They seem displaced toward the red."

spectrum. The displacement of the sodium lines would for the first time, and not only did the apparatus work to

about half an hour before the sun and to the southward of ing success. it about ten degrees or twelve degrees. The tail, of about one degree length, was very plainly visible. The nucleus is Buffalo, a distance of 193 miles, was 28 miles an hour. very condensed and stellar in character, having wings which | From East Buffalo to Hornellsville, a distance of 91 miles, curve outward and downward, the whole presenting the ap- the average running time over the Eric road was only 161/2 pearance of a bird in flight. The nucleus is surrounded by miles an hour. The cattle were fed again and watered at an envelope of light of much less intensity.

were made by Professors Skinner, Boss, and Flint during of 81 miles, the run was made in four hours. the forenoon, thus furnishing a knowledge of the direction served with the transit circle on the meridian by Professor and all the animals seemed contented. Winlock, thus giving the position with an accuracy unat- Upon the arrival of the train at the stock-yards in Jersey tion minus 50 minutes 45 seconds.

proaching its perihelion. Professor Boss, of Albany, has advanced the hypothesis that it is an unexpectedly early return of Gould's comet of 1880, a view which observations at Washington, September 21, seem in some degree to confirm. Ition, the saving in the matter of shrinkage, and the more Clouds, followed by a general rainstorm, have since prevented further observations.

## IMPROVED TRANSPORTATION OF BEEF AND BEEF CATTLE.

Two specially promising improvements in the transportation of beef and beef cattle from the West are now being developed—namely, the use of refrigerator cars for dead meat, and of improved cars and fast trains for live cattle.

In the first case the cattle are killed at Chicago, St. Louis. or other points near the source of supply; and the dressed cold dry air, or otherwise. By this method the cattle are spared the discomfort of the long journey; there is less loss; a larger amount of meat can be carried to the car-load; the meat is delivered ripe for immediate consumption and free from the injuries and disorders incident to long carriage alive; and the cost of refrigeration is said to be not greater Refrigerator Car Company have taken the lead in this business.

5608 drovers, but little of the refrigerated meat has been brought: 1882.

to this city. Preparations are making in Washington Mar-The fourth comet of the current year was discovered by ket, however, for a large extension of the trade here; and

Recently a number of Texan capitalists, said to represent developing a scheme to refrigerate Texan beef for shipment A more remarkable comet (E 1882) was discovered on the to the larger centers of consumption. The project contemto 5° southwest from the sun. On the same day this comet rail, for a system of home killing, the dead meat to be car-

The development of improved live stock transportation is likely to prevent any monopolizing of the meat trade by The comet was easily seen with the naked eye, and ex- the butchers of the south and west. As yet this business is hibited a short tail with a bright head of considerable ex- only beginning; but the success of experimental trains is

mass of bright light, indicating a large comet with plenty. One of the younger companies that have undertaken to of loose material. Extending on both sides were seen bright solve the problem of cattle transportation is the Montarcs of light presenting the appearance of a bird with out- gomery Palace Stock Car Company, whose first train-load stretched wings. The same afternoon a dispatch was re- of cattle to this city arrived from Chicago the forepart of ceived from the Observatory of Paris to the following September. The train consisted of twenty cars, carrying 361 steers, weighing when loaded 418,930 pounds. The average weight to the car-load was 20,946 pounds. A Pullman car, carrying a number of persons interested in the improved transportation of cattle, was attached to the train. Two engines were placed in front of the train, and the distance from Chicago to Port Huron was made in a little less than thirteen hours, at an average running rate of twenty-This is the second comet that has shown a sodium seven miles an hour. At Port Huron the cattle were fed indicate a rapid movement of the comet toward the earth. perfection, but it was seen that the cattle could easily turn Further observations were made at the Naval Observa- around in their compartments so as to reach the troughs. tory on the morning of September 20, by Prof. Frisby, From Port Huron the train went to Ailsa Craig, Canada, who describes the comet as a very prominent object, rising where the watering-machine was used with equally gratify-

The average running time from Sarnia, Canada, to East Addison. From Hornellsville to Susquehanna, a distance The comet was very plainly seen with the naked eye after of 140 miles, the running time increased to an average of sunrise. When Professor Frisby made the second observa- 25½ miles an hour. From Hornellsville to Port Jervis, a tion of its position, about 6 A.M., it was very easily followed distance of 104 miles, the average running time was 221/3 with a telescope. Two more observations of its position miles an hour, and from Port Jervis to New York, a distance

During the entire trip, says the World's reporter, it was and rate of its apparent motion. These observations en- commented upon by the experts that none of the cattle gave abled the astronomers to estimate its position at the time of evidences of leg-weariness, there was no "scouring," not passing the meridian. From these data the comet was ob- a steer was bruised or trampled upon, no prods were used,

tainable by other methods. An observation of a comet in City, the cars were unloaded with ease, and it was found broad daylight with a meridian instrument is unusual. This that the steers all walked well, and were in good condition. is perhaps the third instance in more than a hundred years. Mr. Truax, the superintendent of the yards, remarked that of its having been done. Wells' comet was thus observed it was the first load of cattle he had ever seen arrive without a few months ago at the Dudley Observatory. The position some of them being dead and wounded. These, he thought, from the transit circle observation is right ascension 11 were in a remarkably fine condition. When the cargo was hours 14 minutes 18:94 seconds; declination south, 0 degree weighed it was found that the aggregate weight was 409,670, 34 minutes 28.5 seconds. The daily motion of the comet showing an average loss of 241/3 pounds per head. The is in right ascension minus 6 minutes 6 seconds, in declina- usual shrinkage for the journey is twice or three times this amount. The new cars are 38 feet and 7 inches in length It is believed that this comet was first discovered by outside and 36 feet inside. The width is 9 feet, and the Crulls, at Rio Janeiro, Brazil, September 10, then ap-|height 7 feet and 6 inches. The interior is divided into compartments for four or five cattle each.

The promoters of this and other methods of improved transportation of live cattle claim that the greater expedihealthful condition of the cattle when delivered, make the improved methods as much superior to the old in point of economy as they are on the score of humanity. This being so, there is good reason to expect that before many years the barbarities now incident to cattle transportation will be abolished, and a wholesome quality of beef supplied to con sumers.

For the transportation of beef, from the extreme west and southwest the refrigerator plan offers still greater inducements on the score of humanity, for the cattle are thus subjected to the least travel. The economy of it is as yet somewhat problematical. In any case, the competition demeat is forwarded in cars kept cool by interior currents of veloped by the new methods is likely to be advantageous to eastern consumers in an improvement in the quality of our beef, even if it does not lower the price.

# The Sweetland Chuck.

The fire which occurred in the premises of Messrs. Sweetthan that of feeding and caring for live cattle in transit. land & Co., New Haven, Conn., September 7, fortunately The Anderson Refrigerator Car Company and the Tiffany did not interfere with the manufacturing department. The business is in full operation, and customers can rely on having orders promptly executed. The "Sweetland chuck" Hitherto, owing to the opposition of local butchers and was described and illustrated in our issue for January 7,